

# American Gas *Association* MONTHLY

Annual Meeting Spotlights War

•

Gas Industry Plans for V-Day

•

New National Gas Advertising

•

Industrial Nutrition Program

•


Wartime Gas Servicing Trends

*September*



1942

VOLUME XXIV NUMBER 8



# RUSH ORDER! COOKED BY GAS!

The little blue flame that cooks your meals, that warms your house . . . is a roaring giant in wartime.

It is helping turn steel into weapons of war at a rate that's smashing all records for speed.

It is "cooking" whole battleship turrets at one time in ovens as big as a five-room house.

It is helping make 155 mm. shells three times as fast as formerly.

Tanks and guns and bombs and bullets . . . torpedos and planes and gas-masks and ships . . .

Gas is used to make them all!

And for the very same reasons 85,000,000 Americans prefer Gas for cooking.

**Because it's fast, saves time. Because it's economical and clean. Because it's flexible, instantly adjustable to exact temperatures. Because it's famous for greater dependability!**

AMERICAN GAS ASSOCIATION



## GAS

— THE WONDER FUEL FOR COOKING NOW SPEEDS WAR PRODUCTION



**GAS IS SAVING** time, money and food in every cooking operation. It is helping preserve food safely in silent Gas refrigerators. But don't forget that it is vital to war production. Use what you need for cooking, refrigeration, water heating and house heating—but use it wisely, don't waste it.

Buy United States  
War Bonds and Stamps

Opening "consumer" advertisement in the 1942-'43 program of national advertising which will appear in the Saturday Evening Post for Sept. 12, Life for Sept. 14 and Collier's for Sept. 26



## CONTENTS FOR SEPTEMBER 1942



*With the new limitation order on manufactured gas taking its place beside the natural gas order, plus a growing list of other war problems facing utilities, there won't be any scarcity of topics for discussion at the Annual Meeting. It's a question of elimination not of elaboration, with war aid paramount. . . . As a springboard for industry-wide discussion of post-war planning, we can think of no better or sounder arguments than those contained in Mr. Adams' inspired article. He doesn't want the gas industry to get caught behind the eight-ball after the war. . . . The National Advertising Committee, now headed by dynamic Carl Wolf who carries on the splendid work of Major Strickler, wasn't caught napping by the war. After a short huddle, they've come up with a well-conceived, positive program to keep the industry's achievements before the public. . . . The new war products department of the A. G. A. Laboratories and the vital work it is performing is a tribute to the Laboratories' adaptability and leadership. . . . Also cookin' in this issue: Served's industrial nutrition program, highlights on wartime appliance servicing, home service community activities, war office wrinkles, and technical studies of interest and value.*

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SUBSCRIPTION • \$3.00 A YEAR

Published eleven times a year by the American Gas Association, Inc. Publication Office, American Building, Brattleboro, Vt. Publication is monthly except July and August which will be a bi-monthly issue. Editorial Offices, 420 Lexington Avenue, New York, N. Y. Address all communications to American Building, Brattleboro, Vermont, or to 420 Lexington Ave., New York, N. Y. All manuscript copy for publication should be sent to the editorial offices in



New York. The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein. Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

Cable Addresses: American Gas Association  
AMERIGAS, NEW YORK  
American Gas Association Testing Laboratories  
AMERGASLAB, CLEVELAND



A pipe painting and wrapping machine in operation—a typical scene in the gas industry's fight to conserve vital raw materials. The priming coat has already been applied and the machine shown is applying the enamel and two layers of paper, the main purpose of the paper being to protect the enamel coating against mechanical damage. This picture by A. W. Breeland, director of safety, Lone Star Gas Company, Dallas, Texas, is the September prize winner in the A. G. A. MONTHLY frontispiece contest.





JAMES M. BEALL, *Editor*

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## ANNUAL MEETING

### ... War Effort and Post-War Plans in Spotlight

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A STREAMLINED war meeting taking the place of the regular annual convention of the American Gas Association will be held Monday and Tuesday, October 5 and 6 at LaSalle Hotel, Chicago. In complete harmony with the government's war policies, the sole purpose of the meeting will be to deal with major problems of the gas industry arising from the conflict, to effect thorough cooperation in all the war effort, and to consider post-war plans and adjustments.

The all-out character of the war and the nearly complete change-over of the entire industrial production machinery to war purposes has created unprecedented problems which will be thoroughly aired at this industry-wide meeting. Within the framework of the program now taking shape, first attention will be given to any possible additional assistance to the war program. Occupying second place, but no less important, will be consideration of planning and research necessary to prepare the industry for post-war changes of great magnitude. Subjects to be discussed and speakers will not be announced until just before the meeting to allow greater flexibility and concentration on matters of up-to-the-minute urgency and timeliness.

In contrast to the normal three-day program of events, only one day, Monday, will be set aside for section meetings. These will be restricted to problems of paramount importance in relation to the war effort. The events will open Monday morning with the meeting of the Natural Gas Section, which will also hold an executive dinner that evening. The luncheon period, the afternoon and the evening if desired, have been set aside for meetings of the Accounting, Industrial and Commercial Gas, Residential, and Technical Sections.

The entire second day, Tuesday, after the Home Service Breakfast which will inaugurate the formal program, will be devoted to General Sessions at which vital over-all industry problems will be clarified.

The routine business will be concentrated briefly in the opening General Session, including the election of officers. The presidential address will be by George S. Hawley, president of The Bridgeport Gas Light Company. Presi-

dent Hawley will set the tenor of the meeting and highlight the major points.

Of outstanding interest will be the report of the Committee on War Activities by Ernest R. Acker, chairman. This committee has rendered conspicuous service in coordinating the industry's war activities and directing its full energy to war production.

High on the agenda will be the report of the Committee on Post-War Planning and its very title demonstrates the importance of its message.

Limitation orders restricting the sale of gas in certain territories and for specific uses, with almost complete stoppage of the production and sale of appliances, have brought a complete about-face in gas promotional activities and untold consequences for the future. The problem of gas supply to vital war industries has placed a tremendous responsibility upon the entire industry which will be reviewed in the light of providing complete support to the government's war program and at the same time safeguarding the industry's future.

The operations of the Selective Service Act with the difficulties of maintaining effective service and at the same time contributing technically skilled men to the war effort is a vital subject.

Other serious war-borne problems, such as priorities, salvage of materials, technical problems related to war protection, rising costs of raw materials, and increased government cooperation, will certainly be discussed formally or informally during this industry conference.

A general luncheon will be held Tuesday noon at which annual awards for distinguished service to the gas industry will be made. These include the Charles A. Munroe Award, the Beal Medal, the A. G. A. Meritorious Service Medal, the McCall Home Service Award, and the Million-Man-Hour Awards for accident prevention.

In short, the annual meeting will be a "brass tacks" affair. No entertainment features will be provided by the Association and every minute will be fully occupied with the serious business of "getting on with the war" and preparing for the peace.

# After V-Day What? ... Will We Be Prepared for Post-War Competition?



Frank H. Adams

**T**HERE are those who have no patience with post-war planning while the great and immediate problem of winning the war is very much at hand. I cannot support this viewpoint. It is

true that first things come first, and that we must put the war problems above all others. It is also true that we have just begun to do the job and that it may take years to win complete and final victory. But, after victory, what? Can we take up then where we left off before these days of trial? Can we simply re-convert our plants to making peacetime goods, begin our advertising again, rehire our salesmen, and go merrily on our way still enjoying the confidence of the public? I don't think so.

## Post-War Planning Important

I read with interest that provocative article by H. P. Nagel in the last issue of the A. G. A. MONTHLY and I'd like to quote from it the words of Brigadier-General H. F. McDonald:

"The problems of post-war planning are an integral part or should be an integral part of war planning. Men and women will fight better; will work harder; will sacrifice more, and do all this more cheerfully if they feel that behind the regimentation and ordering which must necessarily accompany a great war effort, there is a vision for the future, and practical planning to implement that vision."

Those are the words of a fighting man, not an idle dreamer. We can do no greater service to our nation than to keep our industry in sound condition, facing the facts of war and the facts of eventual peace, doing now

By FRANK H. ADAMS  
*President, Surface Combustion,  
Toledo, Ohio*

those things our industry must do to steer a steady and true course of progress.

First, I think the industry needs to advertise. It should not cut down on this activity, principally because it should make the record now which is necessary to protect its present position with the public. It would be too bad to come to the end of this war, and then look back to 1942 and have to argue with a customer whether L-31 was issued, or self-imposed curtailment was declared by manufactured gas companies, because the gas utility fell down on its service, its responsibility to the public, or whether its product was so valuable that it had to be conserved for defense uses. I believe that very sincerely.

## Should Make Our Record Now

Our clipping service of advertising indicates to us that the majority of utilities have not advertised, have not explained to the public what L-31, or present curtailment of service found necessary by manufactured gas companies, means to them and why it was invoked, as fully and graphically as it should be done. The public is vitally interested in it and our record must be made now—not attempted two or three years from now.

It is easy for people to understand why they cannot get oil. They see pictures every day of tankers being sunk in the Atlantic Ocean. They understand why they cannot buy a furnace or a range because materials are restricted. A man goes down to buy plumbing, or he wants a lawn mower,—the clerk explains: "We can't get it. The metal is needed in the war program."

But L-31 was the first order, I think,

that limited a service, and that service the public had come to believe—was an intangible thing. It isn't something that goes around in a truck, or is carried in ships. It is true that the same restriction is being made on electric service and so forth, but we still have to explain to our public the significance of L-31 in simple language easily understood by John Q. Citizen, not in the original phraseology of the order. I think it offers a fine opportunity for advertising, not only to make the record, but to enlist our customers as a part of the service which we are trying to render in the war program. That is, they can conserve in their use of gas and they can be helpful in the demands they make which will affect our ability to meet these war production demands.

## Gas Doing Real War Job

Another reason for advertising, and something to be borne in mind, is that the public does not appreciate the magnificent job the gas industry is doing in the war program. Even now, it does not appreciate that one of the reasons why L-31 was issued was because the different war boards—the War Department and the Navy Department—came to the Power Branch, saying: "Where can we locate a plant where we can get five million or ten million feet of gas?" The requests were coming in so rapidly that the Power Branch became very much concerned about the availability of gas supply, not for this year, but for next year, in this steamed-up war program.

It does not realize that this is a war of metals, all of which must be heat-treated—that the shortage of tungsten, the change in the allowable percentage of manganese in steel and many other changed steel specifications, make gas the essential and most desirable fuel for the heat treatment of armaments. No other fuel is as acceptable for nu-

merous processes. The public does not know these things. It does not know the extent to which gas enters into the production or the fabrication of metals. It is a dramatic story. It should be told.

People are interested and will better understand and appreciate the part the gas industry plays in the war effort if we tell that story straightforwardly and continuously. This should be told in the national advertising sponsored by the A. G. A. as well as in local newspapers. In my opinion, the national advertising merely forms the background. If markets are to be maintained, opinion-forming advertising by the local utility is essential. Because selling of appliances is no longer possible, personal contact with the public is being abandoned, and that sales contact with appliances was the most constructive contact the gas industry had.

The tendency to minimize the importance of public relations is natural, due to the fact that we have been given a blanket order for everything we can produce. This tends to minimize the importance of public relations, unless the need and the danger are consciously recognized and an effort made to cope with them. Therefore the need of continuous advertising to sell the value of gas service, when it is no longer necessary or practical to advertise appliances, becomes doubly important.

#### Loss of Public Contact

The discontinuance of constructive contacts can easily result in a definite loss of appreciation of gas service, and the eventual loss of domestic and house heating load. In normal times, when no attempt is made to sell additional house heating load, utilities have found a constant decline in the load due to change of location, changes in income, and the other changes in normal demand for service. Even greater possibilities of loss exist under war-time conditions.

It seems to me that one of the most important phases of post-war planning is the planning now how to retain for the duration the domestic and house heating customers, and the appreciation of gas service which has been built up by past advertising, merchandising and sales effort. We are not

justified in sacrificing what we have attained over a period of years through the expenditure of considerable money and effort, and we owe it to ourselves not only to protect this position, but to strengthen it against the inroads of post-war competition. It is cheaper to hold a market than to rebuild it.

The second thing in looking at tomorrow is the need of planning for the future. Of course, the first call is to win the war as soon as possible, but the very intensity and scope of that total effort increases both the importance and the opportunity for advance planning. Practically every leading manufacturer in every branch of indus-

try is setting up planning boards, committees or directors, so that private industry will be in a position to assume the obligations of maintaining employment and the other obligations essential to the continuation of free enterprise.

It is generally accepted that unless private industry, and this includes the utilities, is prepared to assume these obligations, the government will. Government is encouraging post-war planning, and I suggest that if you have not already done so, you secure information on these activities from the post-war planning divisions of the Department of Commerce, the Depart-

### *A Gracious Offer FROM BRITAIN*

Writing to Major Alexander Forward, managing director of the American Gas Association, on August 12, Michael Milne-Watson, of The Gas Light and Coke Company, 30 Kensington Church St., W.8, London, England, makes the following generous offer:

"The General Manager, Mr. A. E. Sylvester, has asked me to write to you to suggest that you be good enough to communicate with your constituent Companies to ask whether they have any members in the U. S. Forces who are serving in this country and who are likely to be stationed in or near London, so that we may have the pleasure of offering them our hospitality.

"I have already written to Mr. Paige of the Brooklyn Union Gas Company and also to Mr. DeBard of the Stone & Webster Service Corp. asking them a similar question.

"It is a very great pleasure to us to entertain any member of the United States Armed Forces, but I am sure you will realize the particular pleasure it would be to us to be able to do something for the members of the gas industry in America."

#### A REPLY FROM AMERICA

Major Forward replied August 21 as follows:

"It is indeed with pleasure I acknowledge your most kind and thoughtful letter of August 12 extending hospitality to members of the American gas fraternity who might be in or near London with our Armed Forces. It so happens that personally I know of none at this time. I am, however, taking the liberty of publicizing your letter in the hope that any gas men who are there will be able to enjoy the kindness extended, thereby making their sacrifice more pleasant than it might be otherwise. We are suggesting that gas men on duty over there should be told of this generous offer and to get in touch with either Mr. Sylvester or yourself.

"In reciprocation, it will be our pleasure to entertain any gas men serving in the British Armed Forces who may be in the United States. "Your letter is but another evidence of the fraternalism which always has made me proud to be a member of the gas industry."

The cooperation of all gas companies in the United States is solicited in making effective Major Forward's offer on behalf of the American Gas Industry. Companies are also urged to notify either Mr. Milne-Watson or Mr. Sylvester if any of their employees are stationed with the Armed Forces in London or vicinity.

ment of Labor, and the Federal Reserve System.

Perhaps the most outstanding proponent in private industry is Mr. Wilson of the General Electric Company. There, a definite planning effort is being set up to plan for greater acceptance of electric appliances and service after the war. Therefore, a similar effort is vitally important in the gas industry.

Total war creates government control of every industry, organization, individual, dollar, facility. Prices are fixed, earnings are pegged, savings are enforced. We are told what to make, what to sell, what and how much to buy. The very rapidity of these changes creates uncertainty and confusion; it stifles the imagination for normal business; it breathes apathy, and it naturally tends to retard planning for the resumption of normal distribution. This makes the necessity for long-range planning more imperative.

#### Map Future Landmarks

In spite of the rapidity of the change from day to day and the uncertainty of when the war will end and what the conditions will be when it does end, particularly those relating to business and free enterprise, it isn't too early now to attempt to sketch the probabilities of that day, so that any landmarks that appear through the fog can be recognized and our course charted accordingly.

It is only natural that management be more vitally concerned with emergency problems created by the war than with problems of an uncertain future. But management does have a responsibility not only to maintain a service demanded by war production but to see to it that plans are being formulated for a satisfactory and profitable continuation of that service in the post-war period. This is a responsibility incurred by the very nature of management to stockholders, to employees, to the public, and to the industry.

Perhaps the best example that management has today of the value of long-range planning is in the record of the progress made by the Axis powers. While time tables may have been upset, we must admit that the Axis has been able to beat Allied competition

not because of superior manpower, not because of greater resources, not because of greater ability, but simply because of long range planning for war. Certainly, it can and will be overcome, but it will prove costly, and unless the gas industry lays plans for the action it will take in the competitive post-war markets, it, too, may find it impossible to adequately meet this new set of marketing conditions, and to direct the spending of pent-up savings to the purchase of gas service and appliances. Can the gas industry afford to pay the price of unpreparedness?

I believe that management should at once insist that sales and marketing personnel draft a program for post-

war activity. This can be easily undertaken now while it is no longer necessary for sales organizations to plan strategy for immediate sales. I have no doubt that most of the sales personnel is waiting for the green light from management for post-war planning.

I make no claim of vision, foresight or prophesy, but let us try to set down some of the things that are going to happen, or we may think are going to happen. I give these just as examples to speculate on the post-war conditions of tomorrow.

The gas industry's facilities are going to be enormously expanded. In many companies L-31 and the pro-

(Continued on page 322)

## War Board Curtails Consumption of Manufactured Gas

THE War Production Board August 25 issued Limitation Order L-174 curtailing the consumption of manufactured gas. In many cities and towns there are enormous demands from war production plants for increased deliveries of manufactured gas for which there is always a heavy demand in cold weather. In addition the Power Branch has received reports that persons heating their homes with oil expect to convert to gas space heating. "Unless conversions to gas are restricted," said acting chief of the Power Branch, "the increased demands on gas companies will make it impossible for them to continue to render adequate service to war producers. Gas consumers should join oil consumers in avoiding excessive or wasteful use of gas for any purpose."

Restrictions in deliveries are exempted to hospitals, fire and police stations, post-offices, courthouses, schools, prisons, public eating establishments, cafes, bakeries, dairies, and a long list of plants engaged in production of war material.

Order L-174 provides that no gas may be delivered after September 1 to homes, stores, offices or factories for space-heating unless the heating equipment was installed before September 1, or unless the equipment replaces gas-fuel equipment of the same or larger capacity.

Restrictions on the industrial use of manufactured gas forbade delivery of the fuel to a non-residential user for the operation of any equipment which was not operated prior to that date.

Three exemptions were provided for this clause, however, as follows:

First, where the capacity of the new equipment is less than 150 cubic feet an hour; second, where the new equipment

replaces existing gas equipment of the same or greater capacity, and third, in cases where the WPB grants specific approval for delivery of gas to the new equipment.

The restrictions on gas for home heating provide that deliveries may be made to gas equipment installed up to November 15, provided the equipment was specified in the construction contract, and the foundation of the building was completed before Sept. 1.

Utilities which feel that their capacity and fuel supply are adequate to handle present and estimated future requirements of war industry and unrestricted civilian use may apply to the WPB for exemption.

Consumers who believe the curtailment of gas deliveries would interfere with war production or essential civilian services—such as hospitals, fire and police stations, post offices, schools, prisons, restaurants and courthouses—may apply for relief to WPB's Power Branch.

The order sets up machinery for curtailed deliveries of manufactured gas when an actual shortage occurs. First to be cut in such cases would be consumers whose contracts with the utility give the utility the privilege of interruption. This would not apply to war plants and essential civilian services which do not have standby facilities.

If this cut should be insufficient, the following consumers would be curtailed, in order:

Any consumers having standby facilities; other consumers not in the war industry and essential civilian category, and, last, the war industries and essential civilian services which are not specially exempted by WPB.



# National Advertising ... War Effort

## Series Opens Seventh Annual Campaign

IN approaching the 1942-43 national advertising program the gas industry faces new problems and new opportunities. Generally speaking, gas appliances are not obtainable, and in certain areas there are restrictions on the utilization of gas. However, like most other industries operating under priorities and Government regulations, the gas utilities must carry on, yet remembering that there will come a time when the war will be over and business will get back to a new normal. When that time arrives, whether it be one year from now or five years, the gas industry must be ready to seize every advantage that the post-war period will offer. It must not in the meantime have permitted itself to fall in public estimation or to lose the position and prestige which it now has.

### Advertising Objectives

We have approached very seriously the question of how best the gas industry can advertise in this coming year; in other words, what the advertising copy messages should be. In doing so, the Committee has kept these important points in mind:

1. It goes without saying that it is the gas industry's ardent desire to do everything in its power to help win this war. Ways and means of using advertising to make the strongest contribution towards this end are of real importance.
2. Our desire to build prestige for gas is not dependent on selling appliances or on dealing directly with appliances in advertising copy. While in the past the advertising has been highlighted by presenting the latest models of gas appliances and their up-to-date and convenient operating features as a means of reflecting the modernity of gas, there are other equally effective ways of doing the job in these days when appliance promotion is not in keeping with the national war effort. In dealing with public attitudes, just as much progress can be made during a period when appliances

By H. CARL WOLF\*

Chairman, Committee on  
National Advertising

are unavailable as when they are available.

3. The war situation offers opportunities for presenting the vital services of the gas industry in ways that will not only make a contribution to the war effort, but which can be made an important force in building sounder public and government relations.

In line with the above thinking, a series of four advertisements of a war-effort nature has been designed for publication in the country's three leading weekly magazines, total circulation, 9,650,000. The first full-page advertisement of this general or consumer series appears elsewhere, scheduled for publication in *Life* for September 14, *Collier's*, September 26 and *Saturday Evening Post*, September 12.† The three additional ads in this series will appear in October, November, and December issues of the above magazines.

The school of copy followed in these ads aims at the objective of building prestige for gas, but approaches the job in a way which we feel will be more effective for the combined men and women audiences of the general magazines to be used. The contributions that gas is making to the national industrial war program are little short of amazing and yet little known to the general public. The

basic idea of this new copy is to present certain of these outstanding industrial services of gas in a dramatic fashion and relate them closely to the domestic use of gas by pointing up the fact that the same fundamental qualities—speed, dependability, controllability and economy—make it the preferred fuel in industry and the home alike.

We feel that the copy is so timely and interest compelling as to insure a reading. We believe this reading will greatly enhance the prestige of gas for domestic use. It is advertising that presents basic reasons for the superiority of the fuel—a more valuable message to get across during the war period than the details of appliances and their operation.

### Industrial Parallel Stressed

While much advertising currently appearing tells how this product or that is contributing to the war effort, there is a tendency for such advertising to be boastful in character. We do not feel, however, that this is the case with respect to the gas advertisements of this war-effort series. They stress the direct parallel of why industries and homes find gas the outstanding fuel. Gas is unique in having such a story to tell. This fact lifts these ads out of the category of boastful war-effort copy which in reality is little more than a means of keeping the name of a product alive for the war period. Furthermore, they tell a strong story. Six years ago too large a segment of the public thought of the gas industry as outmoded, decadent. Decadent industries do not make vital contributions to the winning of wars.

It seems highly probable that both natural and manufactured gas will have to be curtailed at least in some localities to make way for war production. This situation is met in some measure by this type of advertising

#### PUBLICATION SCHEDULE "WAR-EFFORT" ADVERTISEMENTS, 1942

	Sept.	Oct.	Nov.	Dec.
Collier's	26	24	21	19
Life	14	12	9	7
Saturday Evening Post	12	17	14	12

\* President, Atlanta Gas Light Company, Atlanta, Georgia.

† See inside front cover for this advertisement.

even without any direct mention of curtailment or conservation, for it informs and educates the customers of the gas industry that the same gas they use for cooking and heating is a vital product in war manufacture. Obviously, then, it is something to be used wisely, just as in the case of other essentials such as aluminum, tin, gasoline, rubber, etc. If conditions develop calling for conservation of gas, this advertising is admirably adapted to meet the situation with a paragraph stating the case in whatever way conditions may dictate. One feature of this war-effort series which has given it strong support is the availability of the national ads in mat form for publication in local newspapers.

The Committee has given careful thought to sponsoring a series of ads promoting nutrition and food conservation for publication in the women's magazines but no ads of this nature have been planned for the balance of the current year.

The publicity program, a hand maiden of the advertising program, covering both newspapers and magazines will be carried on as formerly. It will inform American women how to cook modern foods with gas. It will inform the public on the importance of nutrition in war-time, how to cook foods to secure maximum

nutritional benefits, how to make their present equipment last, and, if necessary, of the need for conservation and how to conserve. And in informing them of these many things, the basic, all-important story the industry must continue to emphasize, the story of the modernity of gas, will continue to be told, subtly, continually, interestingly and forcefully along a wide front.

### Industrial and Commercial Gas Advertising

As early as September, 1940, the character of industrial and commercial gas advertising, in so far as its copy theme for industrial markets was concerned, was changed to conform to the conditions brought about by the nation's defense program. Advertising copy was designed to show how ideally industrial gas—with its quick-heating characteristics, its precise controllability, its flexible and its low cost—fit into the defense program. The emphasis in this advertising was on the peculiar advantages of gas and of modern gas equipment to the manufacturer who was faced with the problems of speeding up his production, maintaining a high standard of quality in his product, and keeping his costs at a minimum. It has been the policy during the current year to prepare and approve advertising on a month-to-month

basis in order to key the advertising to current conditions. It was thus possible to change quickly from a defense to an all-out war theme.

As a result of the unprecedented demand for industrial gas caused by the war, the gas industry has a golden opportunity—and one which may never come again—to entrench itself so solidly in industry that its future, particularly in the difficult post-war period, will be assured. It was felt that the publicizing of the spectacular role

*The ad below will soon appear in general business magazines*



*Layout of ad which will lead the current series in metals publications*



### INDUSTRIAL AND COMMERCIAL ADVERTISING FOR 1942-'43

Fields to be Reached	Publications	Space
Metals	The Iron Age	6 pages
	Steel	6 pages
	Metals and Alloys	6 pages
	Metal Progress	6 pages
	Heat Treating and Forging	6 pages
Ceramics	Ceramic Industry	6 pages
	Glass Industry	6 pages
Baking	Bakers Weekly	6 pages
Commercial	Hotel Management	6 pages
	American Restaurant	6 pages
	Chain Store Age	6 pages
	Modern Hospital	6 pages
General Manufacturing	Industrial Heating	12 pages
	Business Week	10 pages

that industrial gas was and is playing in our all-out war program—its immediate, direct and dramatic contribution to war-production—would build goodwill, and prestige for the gas industry as a whole.

Inherent in such advertising is of course the suggestion to the reader that he investigate what gas might be able to do for him to help speed his production. Advertising copy has stressed the specialized knowledge and experience of the gas industry, and has consistently offered the services of the local gas company to those interested in learning how gas might be able to help them in their own plants.

This type of advertising accomplishes three very important results. It builds prestige for industrial gas—and for the whole gas industry. It sells the idea of industrial gas to non-customers, and thus points the way to speedier production, which in turn is a direct contribution to our national war effort. And it builds for the future of gas by developing a clear-cut recognition of what gas can do for industry.

#### War Production Story Dramatic

We are confident that this approach is a sound one; that this war-production story of gas is the most spectacular, the most dramatic, the most interesting story the entire industry has to tell; and that the telling of it, widely and consistently, will do the industry more lasting good, particularly in the post-war period, than any other approach that can be used.

For the advertising year 1942-43, industrial and commercial gas advertising will reach the same fields as previously, namely, metals, ceramics, baking, hotel, restaurant and chain store, hospital and general manufacturing.

As far as advertising copy is concerned, it is planned to have it all keyed definitely to the war program, with a series of advertisements which will combine the prestige story of gas with the offer of service by gas company industrial engineers to help customers get maximum efficiency out of their present gas equipment. Such engineering service will help customers to get greater production out of their present gas equipment; it will help in the important task of conserving gas and in making present equipment last

longer, both of which accomplishments bear directly on our war effort. And, in addition, it will be a valuable prestige and good-will builder for the entire gas industry.

The year 1941 was a record year in industrial and commercial gas sales—accounting for 64.3% of total gas sales and 35.1% of total revenues. The present year will probably surpass 1941, emphasizing the growing importance of industrial and commercial gas, and suggesting the wisdom of continuing to publicize the vital contribution which the gas industry is making toward the winning of the war.

The foregoing presents a summarization of the plans developed for the seventh year of national advertising. It is a strong campaign—highly informative and helpful. Furthermore, it is strictly in keeping with the times. In this latter respect, however, the Committee wishes to emphasize the point that, while we have a campaign

### WOLF ELECTED NATIONAL ADVERTISING CHAIRMAN SUCCEEDING STRICKLER



H. Carl Wolf

unanimously elected to that office by vote of the committee.

Mr. Wolf is president of the Atlanta Gas Light Company, and associated companies in southeastern territory. He is president of the Atlanta Chamber of Commerce, a past president of the Indiana Gas Association and the Southern Gas Association, and a past chairman of the A. G. A. Industrial and Commercial Gas Section. He is also a director of the American Gas Association.

During the six years Major Strickler has headed up the advertising program 572,553,000 gas messages have appeared in the leading opinion-forming magazines reaching the general public and in trade publications serving key American industries.

Newspapers with a total circulation of 379,000,000 have devoted 5,100,000 lines of favorable publicity to gas and modern gas appliances. National magazines with a total combined circulation of over 258,000,000 have published 138 articles, many elaborately illustrated, covering the latest developments in gas appliance design. 1,793 radio talks, most of them emphasizing the inherent advantages of modern gas cookery, have been broadcast from stations in all parts of the country.

H. CARL WOLF, of Atlanta, has been elected chairman of the Committee on National Advertising, succeeding Major Thomas J. Strickler, vice-president and general manager, Kansas City Gas Co., who has served in that capacity since the gas industry's national advertising program was initiated six years ago. Major Strickler will continue as a member of the committee.

News of Major Strickler's desire to retire as chairman was received with regret by the committee at its May 3 meeting in New Orleans. After assuring themselves that Major Strickler would not reconsider his decision, members of the committee nominated Mr. Wolf for chairman and he was later



T. J. Strickler

plan in mind for the next twelve months, everything in that plan is completely flexible.

Actual advertisements are being prepared, one or two at a time, so that necessary changes can be made quickly, or, if unforeseen events occur, the entire advertisement can be altered accordingly; space schedules, too, are subject to such changes as may be required.

The present is a time of test and uncertainty; it is also a time of opportunity for those individuals and industries who have the foresight and courage to forge ahead, to plan for the future. We believe that the gas industry has the foresight, the courage and the resourcefulness to take a forward outlook now, and it is for that reason that we bespeak the gas industry's support of this 1942-43 campaign.

'Tis True

War is engineered scrap.

# LABORATORIES STREAMLINE FOR ALL-OUT WAR EFFORT



George E. Whitwell

THE American Gas Association Testing Laboratories were established some 17 years ago with the protection of the gas-consuming public as their main objective. Today their most important single

function is to serve our country through direct participation in its war effort. For some time past, and particularly over the past year, their activities have been directed to a constantly increasing extent to the service of our national government and its numerous agencies.

## Contribution to Housing Needs

Rapidly expanding military demands necessitated purchase and installation of huge quantities of gas-burning appliances for army camps, defense housing and similar projects. Models especially designed were required in many instances. Through prompt test and approval of such equipment, our Laboratories contributed materially to housing needs which were one of the first essentials of our national defense program.

The availability of a wide range of appliances complying with nationally recognized standards proved invaluable to different government agencies. These included the Federal Housing Administration, U. S. Housing Administration, War Department, Navy Department, Treasury Department and many others. They now depend on the Laboratories and their published Directory for authoritative data on gas appliances and their utilization. This is evidenced by the many requests for advice and assistance currently received from these agencies.

Through their inspection activities the Laboratories were also able to provide valuable assistance to the above-mentioned agencies. In frequent in-

By **GEORGE E. WHITWELL**  
*Chairman, Laboratories' Managing Committee*

stances large projects were undertaken where completion of construction within the shortest possible time was of national importance. When it is considered that the equipment employed was often of a special nature and its installation a race against time, the possibility of operating difficulties can well be imagined. Field examinations by Laboratories' inspectors to determine that appliances in use were not only satisfactorily constructed but properly installed therefore assume special importance. While on the whole quality of the equipment installed reflected great credit on its manufacturer, cases arose where changes were required and prompt completion through the Laboratories' efforts undoubtedly contributed greatly to the quality of the service rendered by gas fuel.

## Gas Equipment Output Curtailed

As a result of the high level of the Laboratories' testing and approval operations for the past several years, a wider and wider range of approved models of all types of commonly used gas appliances became available. Production of popular domestic models, supplemented by additional models developed as the result of the national defense program, built up a substantial back-log against growing demands. Wartime restrictions, however, and necessity for conservation of critical materials, soon brought about drastic curtailment in the output of gas-consuming equipment. Changeover of many plants to full war production and suspension of others not equipped to undertake such work all contributed to this condition.

The decrease in gas appliance manufacturing naturally was accompanied by a decrease in need for Laboratories'

approval of new and redesigned models. Even before Pearl Harbor a decrease in these operations became evident. The logical development has been more direct participation of the Laboratories in our country's war effort. A brief description of this development is of interest.

Through correspondence and by personal visits, contracts were established with various branches of the armed forces, government agencies and scientific bodies. Among these were the War and Navy Departments, Office of Scientific Research and Development, Office of Production Management, National Defense Research Committee, National Advisory Committee for Aeronautics and many others. Detailed information was provided on the Laboratories' personnel and equipment and their availability for undertaking research and engineering assignments. Past accomplishments in the field of gas utilization were explained and the background available for carrying out work of an investigational, development and design nature described.

## War Products Designed

After expenditure of much time and effort authority was given to undertake the design and development of instruments for use in airplanes. This was followed shortly by special highly confidential research assignments primarily connected with ordnance. Since that time, several additional projects along similar lines have also been assigned and work is now under way. Progress already made has been so favorably received that the scope of the projects previously authorized has now been materially expanded and indications point to greatly increased activities in the near future.

For reasons which will be obvious it is not possible to enlarge on the various special assignments in which the Laboratories are now engaged be-



yond stating that they are all to a high degree vital to the war effort. At present, a very substantial portion of the Laboratories' equipment and personnel is devoted to work of this kind. Indications are that by the time this article appears the present basis of operations will be materially expanded. In fact, within a few months it is confidently expected that the Laboratories' war activities will constitute the major part of their operations.

For the most efficient handling of these new activities the War Products Department of the Testing Laboratories was organized by R. M. Conner, their director. W. R. Teller, formerly chief testing engineer, was appointed chief engineer of the new department. A member of the Laboratories' staff since 1930, Mr. Teller is particularly well qualified to take charge of this most important and vital branch. He is thoroughly familiar with all Laboratories' activities as the result of 12 years spent in various departments.

W. H. Vogan, former supervisor of the Pacific Coast Branch Laboratories and previously chief inspector at Cleveland, was transferred from Los Angeles early in June to assist Mr. Teller in operating his rapidly growing department. Joining the Laboratories in 1928, Mr. Vogan has had wide experience in various gas research and testing projects culminating with his administration of the Pacific Coast Branch of the Testing Laboratories since 1939.

A total of 6 additional engineers and two draftsmen now constitute the War Products Department staff. Another engineer, F. E. Hodgdon, a coast artillery reserve officer, who was one of the first assigned to the new department received orders to report for duty late in July. All of the engineers now engaged in this work have been selected from the most experienced members of the staff now available, on the basis of their special qualifications for undertaking individual problems

assigned the Laboratories. Additional engineers will be transferred from their present duties as the operations of the new department expand.

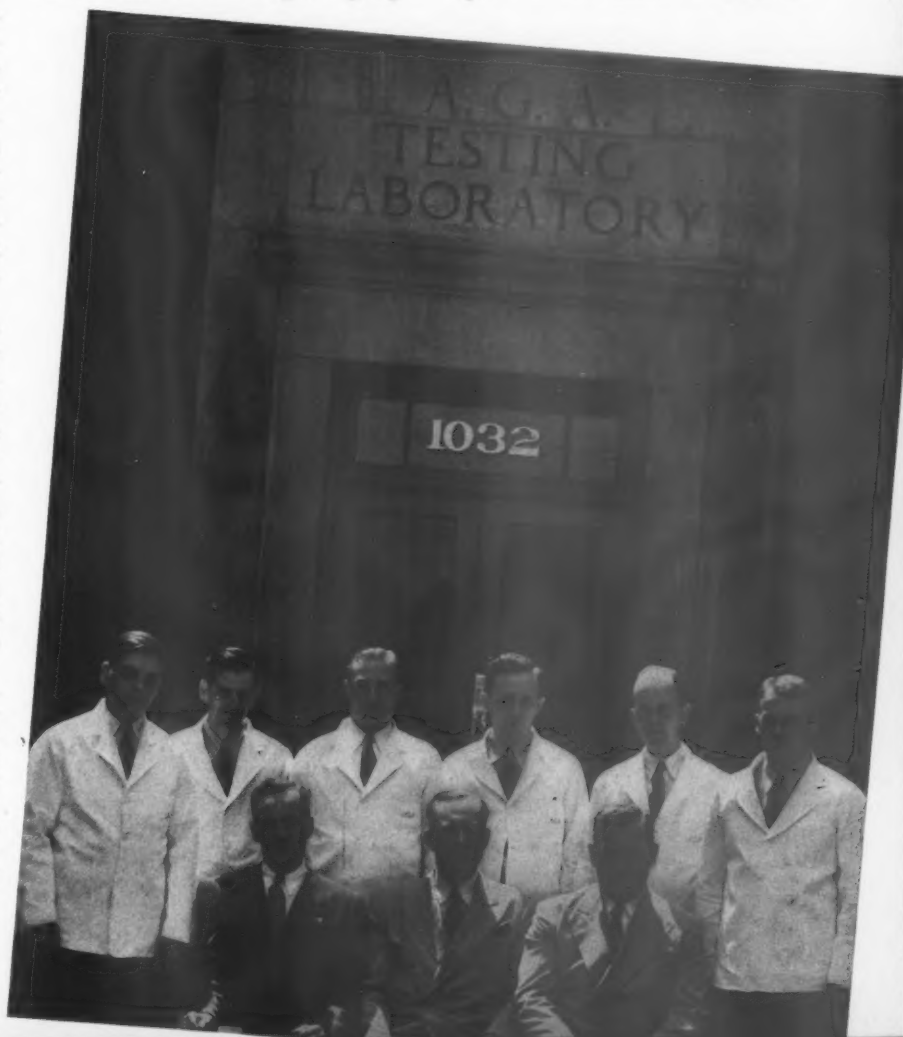
Mr. Conner as director of the Laboratories, has added a real achievement to his record of successful operation from their beginning, through his constructive, painstaking, and persistent development of these war projects with the appropriate Government officials and in effectuating the striking and difficult change from normal Laboratories' procedures to those of the war effort. Mr. Conner and his associates deserve the congratulations of the industry.

For the purpose of assisting in securing additional war activities and facilitating their conduct a group known as the United Engineering and Production Association was organized in May of this year. This is an association of the so-called "mother hen" type. The American Gas Association Laboratories and three other organizations formed the original group

which has since been expanded by the addition of a fifth member. Testing, research and special engineering facilities are the Laboratories' share in the new association's activities. This arrangement will, it is believed, promote securing of additional war assignments which may be allocated to the member possessing facilities best fitted for performance of such services. The United Engineering and Production Association has already been certified by the War Products Department and is now fully qualified to function along the lines for which it was organized.

The present world-wide war is the first in the existence of both the American Gas Association and its Laboratories. Many of us still remember vividly the experiences of 1917-1918 and the seemingly unsurmountable difficulties with which our industry was faced at that time. Unfortunately, these are dwarfed by those now confronting us. To surmount them will require the best efforts of which we

*Executive and Engineering Staff of War Products Department, A. G. A. Testing Laboratories. Standing (left to right) R. E. Reynolds, B.S. in Aeronautical Eng.; M. E. Ward, B.S. in Eng. Phys., M.S.; F. E. Hangosky, B.S. in Ch.E.; E. J. Weber, B.S. in Ch.E.; C. W. Kitchin, B.S. in Chem.; H. L. Burns, B.S. in Ch.E. Seated (left to right) W. R. Teller, Ch. Engr., War Products Dept.; R. M. Conner, Director; W. H. Vogan, Asst. Ch. Engr., War Products Dept.*



are capable. Our Association's energies are now directed to this common goal and our combined industry feels the deepest obligation for meeting the responsibilities now facing us. For this reason, we should all share common pride in the steps which our Association's Laboratories are taking in directing their efforts to projects vital to the winning of the war. These, I am convinced, will greatly increase in both number and scope and eventually constitute their major activity. I know of no better use to which our Laboratories' facilities and resources can be devoted and confidently predict that their accomplishments will justify our fullest expectations.

### Methane Gas Used in Europe

THE first methane plant in Switzerland has been erected by the municipality of Zurich. The expected output of 70,000 cubic metres of methane will be used to drive 40 lorries of the town's refuse and sewerage department, which are being converted to the new motor fuel.

A concession for the exploration of natural gas deposits in several rural districts of Switzerland has been issued. Natural gas was encountered during the construction of the Ricken tunnel, and other deposits are supposed to exist near the Zurich lake.

The large Italian gas company, Societa Italiana per il Gas (Italgas), which supplies the towns of Rome, Genoa, Turin, Florence and Livorno with gas, states that sales in 1941 have been satisfactory. The company now furnishes the Fiat motor works with gas for purposes where previously naphtha was used. A subsidiary, Societa Mineraria Rosolina, was formed for the exploitation of methane gas deposits at Rosolino d'Adda where 8,500 cubic metres can be produced daily.

### Canadian Utilities Unite in War Workshop

A FINE example of public utility co-operation in wartime is the work of the Public Utilities Wartime Workshop Board of Canada headed by James K. Wilson. In its first six months of operation this organization completed over 16,300 "bits and pieces"—machine and other parts, particularly those which tend to make "bottlenecks" in the munitions-producing industries—and has orders on hand for more than \$300,000 of similar work.

War material now being machined in the workshops of gas, electrical, telephone and transportation companies in Canada include such parts as: armor plate, turrets and suspension units for tanks, marine engine cylinders, pump cylinders, sheaves and straps for marine engines, large base studs, control valves, shells, sleeves, couplings, gun-mounting parts, and radio sound locator parts.

Formed in July, 1941, at the request of the Department of Munitions and Supply,

the Public Utilities Wartime Workshop Board is made up of member companies in the five public utility associations in Canada: Canadian Gas Association, Canadian Electrical Association, Bell Telephone Co. of Canada, Canadian Transit Association, and Hydro-Electric Power Commission of Ontario. The original program contemplated training of military personnel in utilities' maintenance workshops and garages, manufacture of parts and training of civilian personnel, but the military personnel training idea was dropped after study.

The manufacture of "bits and pieces" is carried out under the direction of coordinators and in no way competes with established manufacturers of machine parts.

### New War Protection Material Issued

MORE than 60 pages of new information were added to the American Gas Association's book "War Protection of the Gas Industry" in a second issue of that publication distributed in August. Originally containing 100 pages, 8½" x 11" in size, with numerous illustrations, the manual was published last spring in loose-leaf form so that it could be brought up-to-date from time to time.

Already widely recognized as the most authoritative publication available on the war protection of the gas industry, this book tells how to prepare gas plants and other facilities against enemy attack. It also outlines procedures to repair damages resulting from actual attack. The background includes the published literature of American, English, German and other foreign sources, communications from observers on the war scene, and the latest experimental work carried out by American gas companies.

Copies are available from the American Gas Association, 420 Lexington Ave., New York, N. Y., at a price of \$2.50 to A. G. A. members and \$5.00 to non-members. The first cost includes all subsequent and revised material.

### Briquet Plant Serves as Movie Location

LIMITATION on the amount of money motion picture producers may spend for sets and the conservation of materials have brought again into prominence the old Los Angeles Gas & Electric Company briquet plant at the corner of Macy and Lyon Streets. It was used in July as a scene for a new Samuel Goldwyn picture, "They Got Me Covered," starring Bob Hope and Dorothy Lamour.

Unused since the gas plant shut down in 1927, the huge old brick building, spooky with cobwebs and the accumulated dust of years, made a perfect setting for a sequence involving Axis spies and gunmen, according to a release from the studio.

### Last Three Roper Gas Ranges Presented to U. S. O. Clubs



At an informal ceremony held July 31 at the Geo. D. Roper Corp., Rockford, Ill., the last three Roper gas ranges to be manufactured for the duration were presented to the United Service Organization clubs of Rockford. Shown above is Mabon P. Roper, president of the company (second from left) flanked by U. S. O. club representatives, standing in front of the three ranges which are deluxe CP models. The large Roper plant, which turned out 550 gas ranges a day during the last few years, is now totally converted to war work

# Industrial Nutrition ... Program for War Workers Gains National Support

A "NUTRITION IN INDUSTRY" program which gas companies may make available to war plants in their communities, and which will enable such plants to help speed the nation's War Production Drive, has been developed by Servel, Inc., Evansville, Ind. Details of the plan are to be released to the gas industry in the near future.

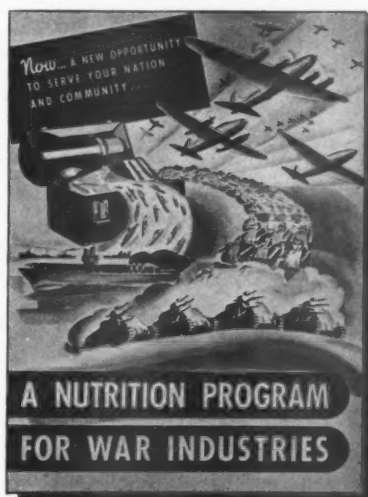
The industrial nutrition project is an extension of the Home Volunteer program now being carried on by many gas companies throughout the country. It is in step with and in support of the national nutrition in industry campaign for which the government has just announced plans, in recognition of the value of nutrition as a vital instrument in boosting production levels. The government's program, directed by the Office of Defense Health and Welfare Service, is designed to improve the health and eating habits of war workers.

## Follows Government Plan

In anticipation of this campaign, Servel has prepared its industrial nutrition plan in accordance with government recommendations and with the assistance and advice of government officials. The program has drawn from the best experience of outstanding home economists, nutrition authorities and research leaders of the nation. It provides a constructive plan, simple and easily applied, whereby gas companies may interpret the government's food rules in meals served by war plants, plant neighborhood restaurants, and in the home.

The "Nutrition in Industry" program is based on the pioneering nutrition experiment which Servel recently conducted among the 5000 war workers of its own plant in Evansville, now converted to war production. The program also has been as-

sisted by the experience gained in the special industrial nutrition program conducted by the Bridgeport (Conn.) Gas Light Company under the direction of Ronald A. Maloney, sales manager.\* Much valuable information also was obtained from the Committee on Nutrition in Industry of the National

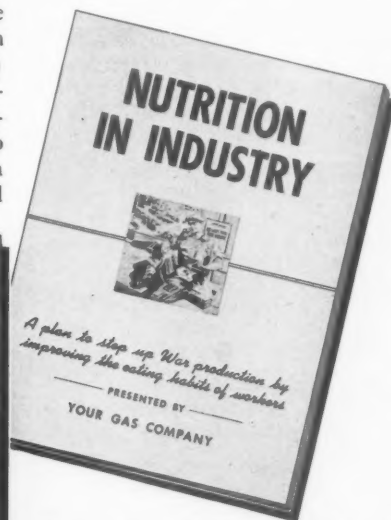


Advance announcement describing the "Nutrition in Industry" program

Research Council which has carried on extensive field surveys during the past several years. The Council is cooperating with Servel in the scientific phases of its industrial nutrition program.

Gas companies can get into action immediately on the "Nutrition in Industry" project by contacting their local Nutrition Committee and setting up an organization structure. The portfolio which describes the program is being so prepared that it can be presented to the managers of war industries through the local Nutrition Committee.

The complete educational and promotional material to be mailed shortly to gas companies consists of the following:



Presentation portfolio to gas companies which describes the complete program. Samples of promotional aids are included

a) An advance announcement, entitled "A Nutrition Program for War Industries," describing the "Nutrition in Industry" program.

b) The Presentation Portfolio, entitled "Nutrition in Industry," which outlines the complete program and all accompanying materials. It is so designed that it can also be used for setting up local programs immediately. Included are samples of various promotional aids.

c) Plant Manager's Portfolio. Prepared for local war industries interested in the national nutrition program, it tells how to set up a practical plan of more adequately feeding workers both in the plant and at home. Each war plant, of course, organizes its own nutrition program, adapted to its own particular needs. However, the skill, the experience, and the trained nutritionists and home service workers of the local gas companies will be placed at the disposal of the local war plants, for any assistance they may wish.

Striking posters in color, as well as

\* See article "Pack a Lunch a Man Can Work On," A. G. A. MONTHLY, June, pp. 168-172.

other colorful visual material, will be made available for use in plant cafeterias and nearby restaurants to stimulate interest in the "Nutrition in Industry" program.

It also is announced that magazine, newspaper and trade advertising will be utilized to fasten the attention of war workers and others on the project.

Advance information on the "Nutrition in Industry" plan may be secured from the Advertising and Sales Promotion Department, Servel, Inc., Evansville, Ind.

## Safeguarding Records from Air Raids

RECOGNIZING the threat of air raids and the problem of safeguarding important business records from this new type of hazard, the Metropolitan Life Insurance Company has just completed an intensive report on this subject which is available to the gas industry. Entitled "Safeguarding Records from Air Raids," the report is based largely on information secured from about 50 companies, including utility, in-

dustrial, financial and mercantile organizations. These companies are located in various parts of the United States and Canada, although the majority are operating along the Eastern and Western seaboard.

The report is divided into three parts: (1) Assignment of responsibility for a record-protection program, (2) Determination of material requiring safeguarding and (3) Method of safeguarding to be employed. Each of these is discussed in valuable detail.

Pointing out that utility companies are concerned with protection of maps and drawings of their distribution systems, deeds, meter records, charters and franchises as well as plant and property records, the report emphasizes the necessity for a complete analysis, classification and evaluation of records. After classification, records may be protected by one of three general methods: decentralization, adequate housing, and provision and segregation of duplicate records. Each method and its applicability is reviewed.

Of particular interest to the gas industry is a case study of a utility company which is included in the report.

Copies of "Safeguarding Records from Air Raids" are available on request to E. H. Conarroe, Director, Management Service, Policyholders' Service Bureau, Metropolitan Life Insurance Company, New York, N. Y.

## Letter from England Provides War Protection Information

FIRSTHAND information regarding war protection of the gas industry in England reached this country recently in a letter to Davis M. DeBard, vice-president, Stone & Webster Service Corp., from James Jamieson, engineer and manager of the gas department of Edinburgh, Scotland. The fifty-second letter Mr. DeBard has received from England giving valuable utility data, this communication answered questions submitted by C. George Segeler, editor of the A. G. A. publication, "War Protection of the Gas Industry."

Following are excerpts from Mr. Jamieson's letter:

Water gas plants with waste heat boilers present no difficulty during blackouts. In cases where no waste heat boiler has been fitted the Ministry of Home Security has granted a license to the gas company to operate such plants on the distinct understanding that they must be shut down in the event of an "alert" and that means to put that into operation quickly must be provided. I have also heard, although I have not seen it in actual practice, that with the introduction of a fine water spray

at the stack valve of such water gas plants, that that has prevented the gases from igniting and they have been able to work water gas plants without waste heat boilers successfully in cases where that arrangement has been fitted.

I do not think there is any agreed policy as to whether gas holders should be operated as full of gas as possible or with as little gas as possible. We have used our column and spiral guided holders throughout the war in the same way as we did in pre-war days, that is they are inflated in accordance with the amount of gas required to be stored.

The normal procedure when a low pressure main is hit is to plug off the damaged main, turn off the service cock in the dead section prior to the resumption of supply. Emergency repair gangs do not look therefore for extinguishing pilot lights. The number of meters affected of course must be determined by the extent of the damage and it is impossible to dogmatise on what would be necessary on a hypothetical case.

Expenditure for A.R.P. purposes is submitted to the Board of Trade and they have prepared a list of plant and items of expenditure on which they are prepared to make a grant ranging from 25% of the cost up to in some cases 100%. The latter however is very exceptional and is only granted for very special reasons. Expenditure for A.R.P. purposes is ranked as Capital in

most cases and is therefore not recoverable from the gas revenues nor is it allowed as a deduction for Income Tax unless in the case of Air Raid Shelters, on which Income Tax at the rate then ruling could be deducted.

With low pressure mains up to 9" diameter, the procedure in our area is to tackle the damage at the crater if possible and plug off the broken end, either with wooden plugs or with partly filled sand bags crammed into the broken ends. This is done during the raid and constitutes a temporary plug off which can be left for a few days if necessary until repair gangs are able to make either a complete repair or a permanent plug off. In the case of larger mains the main is generally plugged off on either side of the damage and then cut or plugged off permanently. A temporary plug off to a small main only takes a matter of minutes, but to open upon the main, bag off, cut and plug takes from 3 hours upwards, depending on the size of the main. We have introduced a system of districting all our mains so that in the event of one district being badly blitzed we can isolate that district from the remainder of the town.

### Turning On Gas Supply

When a large area has been without gas and the supply is resumed the general procedure is to send round loud speaker vans to notify the public that the gas will be turned on at a certain time. Notification is also given by newspaper advertisement and by street placards. Pipes in partly damaged property are tested and repaired if necessary before turning on the supply to these buildings. The turning on of the supply is certainly the most difficult of all problems and care has to be exercised to see that the mains are properly purged of air. Purging machines are in common use now for this purpose.

In answering the question, how far away from the crater must one expect to find cast iron main fractured when a main is hit, no definite information can be given as in some cases near misses have not affected cast iron mains and in other cases mains have been broken up to 30 to 40 feet from the crater. I have heard of one or two cases where internal explosions have taken place and one has to be on one's guard for difficulties arising from fractures in mains, although there is no evidence of disturbance of the roadway.

There has been no unanimity in the methods of applying increase in price due to increased costs on account of the war. In our own case we increased the price by 20% but the Government have now laid it down that further increases can only be applied on their authority and one has to establish a very good case before permission is given. The same applies to coke, tar and other by-products. I think you may take it that the increased price since the outbreak of war and before the restriction was applied by the Board of Trade would amount to anything from say 10% up to 20% increase in gas charges.



# Wartime Trends ... in Appliance Servicing and Personnel Training



J. L. Johnson

THE June issue of A. G. A. MONTHLY carried an article by J. M. McCaleb, Chairman, Sales & Service Relations Committee, and D. R. Edwards, member of that Committee,

reporting on the trends occurring in appliance servicing and policies during the three years ending January 1, 1942. The material presented in the article reflected the policies and practices of the fourteen companies represented on the Sales and Service Relations Committee of the Residential Section. The companies surveyed included manufactured and natural gas organizations operating in the principal geographic regions of the United States.

Another Subcommittee of the Sales and Service Relations Committee has been giving thought to changes in servicing practices which may arise as a result of wartime conditions. Facing a certain shortage in many types of gas appliances, the expectation naturally arises that the mutual desire of the customer and the utility to keep appliances at present in use functioning in as satisfactory a manner as possible will result in increased appliance service work in customers' homes.

In order to determine to what extent requests for service were already increasing, from what sources additional manpower, if needed, was being procured, and whether utilities were experimenting with the use of sales-

By J. M. McCALEB<sup>1</sup> and  
J. L. JOHNSON<sup>2</sup>

men in their service work, the Subcommittee has requested the response of Committee members on these questions as of June 1942. This article summarizes the results of this inquiry.

To what extent has the present situation with reference to reduced distribution of gas appliances resulted in increased service calls on appliances already in use? This is a question of general interest to the industry as a whole.

## Service Call Trend

Three companies reported slight increases in servicing work during the first six months of 1942. One was located in the Pacific Northwest, another in New England, and the third in the Greater New York City area. In the latter case the increased demands for service were attributed to information published by Defense Authorities concerning the shutting off of pilot lights. One company on the Gulf Coast and another on the West Coast, reported slight decreases in the number of service calls. In the latter case, this is attributed to company newspaper advertisements requesting customers to cooperate in saving rubber by accumulating calls through deferment of requests for minor servicing and adjustments. The remainder of the fourteen companies represented on the Committee reported that no significant increase has occurred "as yet" in requests for service.

Where service calls have shown an increase it is of interest to know whether the increase has been chiefly in requests for adjustments of various kinds, or for replacement of parts. In the New England and Greater New York City regions the increases reported had to do with requests for ad-

justments, while the Pacific Northwest reported an increased demand for appliance parts. All companies appear to anticipate an eventual increase in the demand for parts as time elapses. A West Coast member reports efforts to reduce parts for replacement work by referring consumers to dealers and manufacturers.

Have companies experiencing an increase in servicing demands been able to take care of them with their regular servicing staff, or have they had to increase the service personnel? In two-thirds of the cases no increase in service personnel has been found necessary. One New England member reports that the necessary increase has been covered by the use of salesmen. Several reported that the total demands upon their servicing departments have been reduced by reason of the decrease in appliance installation work formerly handled by service personnel.

## Training Salesmen

The practice of companies in training salesmen to do appliance service work in the home was another question posed by the Subcommittee. On this point there is a wide difference of practice. The majority of companies reported that no effort had been made along this line, although several say it is under consideration. Two other companies reported that salesmen are trained at time of employment from a "general knowledge angle" to regulate ranges, pilots on water heaters, and other similar adjustments. Two other metropolitan companies reported that this practice is being followed with regard to summer inspections of house heating equipment for educating customers on how to start up and shut down house heating appliances. Companies utilizing salesmen for service work reported that compensation was on a straight salary basis.

<sup>1</sup>Chairman, Sales and Service Relations Committee. Mr. McCaleb has been commissioned a Lieutenant, Junior Grade, in the United States Naval Reserves and will leave his position with the Citizens Gas and Coke Utility, Indianapolis, shortly to begin training.

<sup>2</sup>Chairman, Subcommittee on Sales and Service Interrelations and Activities During the Emergency. Also sales manager, Providence Gas Co., Providence, R. I.

A Middle West member reported that its District Service Managers conduct and train schools in service, and have the responsibility for the training of all salesmen and sales engineers used in survey work. These salesmen are trained in meter service, gas refrigerator, range and water heater adjustment and servicing. The sales engineers are trained in house heating adjustments, as well as unit heater work.

There was a great variation in the extent to which former salesmen are being used to assist customers in obtaining better results, longer service and greater use from their present appliances.

A Gulf Coast company reported the use of a few older sales employees and three companies reported general activity along these lines. Two others stated former salesmen were helping customers in obtaining priorities or preference rating on repair parts or new appliances, while the remainder reported no such activity. In the majority of cases the salesmen so utilized are compensated on a straight salary basis.

#### War Protection Work

The extent to which salesmen were being trained for work in connection with air raid alarms and blackouts was also varied. A West Coast company reported that many of their salesmen have fitted nicely into their plant protection system, instituted because of the war. Commercial agents in most of their districts have been appointed district wardens in charge of all phases of protection locally. This includes organizing fire wardens and air raid wardens in plants and sub-offices. They have been schooled thoroughly in classes held in the general office, and, in turn, train the local organization. The organization is complete to operate under all conditions, whether due to air raids, blackouts, or natural emergency conditions. Each person in the emergency organization who is on standby duty to be called out any time has had increases in compensation for standby and time spent on emergency duty. This compensation is separate, rather than being considered a part of his salary.

A company on the Gulf Coast stated that salesmen were being utilized for

### NEXT MONTH

The A. G. A. MONTHLY will present a cross section of the gas industry's views on war and post-war sales, advertising and public relations policies in the October issue. This material is being compiled from the answers to a comprehensive questionnaire distributed by the Residential Section.

emergency service work at the time of air raids and that such work would be performed on a voluntary basis when conducted after hours.

A company in the Great Lakes district reported that most of its salesmen were enrolled in the local Civilian Defense Organization on a voluntary basis.

In the Mid-West, one company has three men, formerly sales supervisors, who serve as members of the company emergency gas corps after being trained in handling air raid alarms and blackouts.

Another company in the Mid-West reports that some of its salesmen and

sales managers serve as air raid wardens in the communities in which they live.

A Greater New York company has designated volunteer members of the company's Defense Corps as floor supervisors for assembling employees in safety zones, or as captains in charge of emergency crews in the district in the event of actual bombing. Most of the instruction work has been done on company time, although further training will be done on employees time where the individual has volunteered for emergency work.

It is evident from the responses from these companies in various parts of the United States that there has been little change in the volume and character of servicing work during the first six months of the war period, although all companies anticipate such changes in the future.

The Sales and Service Relations Committee will make further inquiries of typical gas companies on this subject at the end of the year, and will publicize any information of value to the industry.

## Butterfly Control Valve for Low Pressure Gas Mains

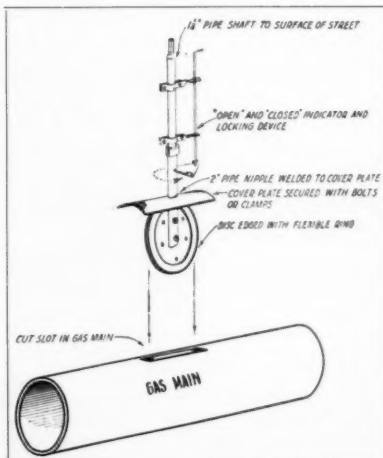
THE gas department of the San Diego Gas and Electric Company, San Diego, has developed a butterfly control valve to be used as an emergency shut-off device for low pressure gas distribution mains from 4-inch to 30-inch diameter. Some 40 of these valves have been installed in San Diego and appear to be satisfactory, accord-

ing to L. M. Klauber, vice-president and general manager.

The valve consists essentially of a disc which can be rotated inside the pipe on a vertical shaft similar to a stove pipe damper. There is no socket or bearing in the bottom of the pipe. The bending moment in the vertical shaft is absorbed in a long housing on top of the gas main. This housing is welded to a cover plate which is secured to the main with bolts or clamps.

The disc is inserted through a longitudinal slot cut in the top of gas main, making it unnecessary to cut the pipe circumferentially or to sleeve in a special fitting. The valve can be closed or opened rapidly through a small valve box (12-inch diameter) set in the pavement. The assembly can be installed without taking the main out of service.

The device consists mainly of pipe fittings and small pieces of steel plate assembled by welding. Machine work is limited to drill press work. There are alternate methods of facing the periphery of the disc to obtain a seal against the inside wall of the gas main. A plywood disc ringed with worn out garden hose was found to be very effective. Another method consists of a sheet of 1/4-inch rubber between two metal discs.



After the war you, too, can enjoy economical gas heat  
... if you don't have it now!

**Cut your heating COSTS**  
... and help speed victory!

**3 ways** to reduce the cost of fuel and help the war effort

1. Insulate your home
2. Seal your home
3. Weatherstrip your home

Insulation now per dollar installed reduces it to 10 cents per year. Consequently, insulation of roof, walls and windows will reduce the heating bill by perhaps 15 per cent. Storm windows and doors, weatherstripping, and caulking will save even more. Insulating your home will save you from 10 to 20 per cent of your heating bill. Weatherstripping doors and windows will save you from 5 to 10 per cent of your heating bill. Weatherstripping your home will save you from 5 to 10 per cent of your heating bill. Weatherstripping your home will save you from 5 to 10 per cent of your heating bill.

**Natural Gas Companies**  
Serving the Greater Pittsburgh Area

First ad in the Pittsburgh conservation series

## New Campaign Stresses Gas Conservation

CUT your heating costs and help speed victory," is the over-all theme of an advertising campaign launched in August by the natural gas companies serving the greater Pittsburgh area. The drive is intended to help the government by promoting conservation of gas fuel against possible wintertime shortages, and indirectly to promote automatic gas heating in insulated homes.

The first phase of the campaign undertaken by the Equitable Gas Company, Peoples Natural Gas Company and Manufacturers Light and Heat Company, will be devoted to selling the idea of insulating homes against heat losses. Cooperating are a number of manufacturers and dealers of home insulating materials who are using advertising space for their own products in conjunction with the large ads of the Pittsburgh companies.

The current campaign will be followed by a general gas conservation series to be continued throughout the winter. This campaign will stress the vital role that natural gas is playing in the war production picture, coupled with some healthy boosts for natural gas as the fuel of the post-war era.

Ketchum, McLeod and Grove, Inc., Pittsburgh, is in charge of the campaign.

## New Cooling System Uses Gas

ONE of the first installations of the new Carrier Weathermaster conduit-type cooling system to be installed in a hospital uses a gas-operated silica gel dehydrator for humidity control. The combined system insures absolute control of temperature and humidity for patients suf-

fering from respiratory ailments at the Hays Protestant Hospital, Hays, Kansas. The equipment, installed to take the place of well-water cooling which had proved inadequate, conditions approximately 1500 square feet of space in the new wing, where patients suffering from hay fever, silicosis and other respiratory troubles are quartered.

In combination with a 7½ ton compressor and a shell-and-tube condenser cooled by well water, the gas-fired dehydrator provides various degrees of humidity regulated strictly according to the

needs of patients. This has made it possible to cut down the recovery period for special cases, and to relieve congestion of chronic hay fever sufferers. Combination cooling and dried air units are located under the windows so as to diffuse cooled and dehydrated air to individual zones, and can be operated independently if desired.

According to the hospital management, many days of convalescence have thus been eliminated in respiratory treatment by using 40, 50 and 60% relative humidity in individual cases at an 80° F. temperature

## Gas Services Predominate in New Homes Constructed in 1941

RESULTS of an annual investigation of new home construction in territory served by a large number of gas utilities in the United States show that gas fuel made rapid strides during the year 1941. Of approximately 200,000 one- and two-family homes constructed in the territory of companies reporting to the Association's statistical department, 89.9 per cent chose gas for cooking, 77.7 per cent use gas water heating, 58.7 per cent installed gas house heating, and 11.1 per cent selected gas refrigeration. Companies reporting in the survey represented more than 10 and one-half million meters and included both manufactured and natural gas units.

Gas proved even more popular for cooking and refrigeration in the study of mul-

tiplex dwelling houses but did not show up quite so well for the other two services of the four big jobs. In the same survey reported above, except that companies reporting represented more than eight and one-half million meters, gas cooking was the choice in 94.5 per cent of the dwelling units, gas water heating, 54.8 per cent, gas house heating, 32.2 per cent, and gas refrigeration, 17.8 per cent.

Inaugurated several years ago by the Residential Section as a service to the gas industry, this tabulation of the use of gas services and appliances will be continued annually. The figures presented below should prove valuable in checking local home construction records with the national figures.

### GAS SERVICE AND GAS APPLIANCES USED IN ONE- AND TWO-FAMILY HOMES CONSTRUCTED DURING 1941\*

Gas	New Homes Along Gas Lines	Cooking	Per Cent	Water Heating	Per Cent	Refrigeration	Per Cent	House Heating	Per Cent
Natural	118,226	109,607	92.7	109,891	92.9	14,842	12.6	103,128	87.2
Manufactured and Mixed	80,240	68,838	85.8	44,301	55.2	7,202	9.0	13,320	16.6
<b>TOTAL</b>	<b>198,466</b>	<b>178,445</b>	<b>89.9</b>	<b>154,192</b>	<b>77.7</b>	<b>22,044</b>	<b>11.1</b>	<b>116,448</b>	<b>58.7</b>

### NEW HOMES CONSTRUCTED BEYOND GAS DISTRIBUTION SYSTEM BUT WITHIN FRANCHISE AREA

Natural	6,024
Manufactured and Mixed	10,825
<b>TOTAL</b>	<b>16,849</b>

\*As reported by gas companies representing 10,535,191 meters divided as follows:  
Natural 3,510,366  
Manufactured and Mixed 7,024,825

### GAS SERVICE AND GAS APPLIANCES USED IN UNITS OF MULTIPLE DWELLINGS CONSTRUCTED DURING 1941\*

Gas	Dwelling Units in Multiple Along Lines	Cooking	Per Cent	Water Heating	Per Cent	Refrigeration	Per Cent	House Heating	Per Cent
Natural	31,575	30,386	96.2	30,465	96.5	2,483	7.9	23,232	73.6
Manufactured and Mixed	43,790	40,825	93.2	10,865	24.8	10,949	25.0	1,050	2.4
<b>TOTAL</b>	<b>75,365</b>	<b>71,211</b>	<b>94.5</b>	<b>41,330</b>	<b>54.8</b>	<b>13,432</b>	<b>17.8</b>	<b>24,282</b>	<b>32.2</b>

### NEW HOMES CONSTRUCTED BEYOND GAS DISTRIBUTION SYSTEM BUT WITHIN FRANCHISE AREA

Natural	610
Manufactured and Mixed	9,039
<b>TOTAL</b>	<b>9,649</b>

\*As reported by gas companies representing 8,639,372 meters divided as follows:  
Natural 3,105,506  
Manufactured and Mixed 5,533,866

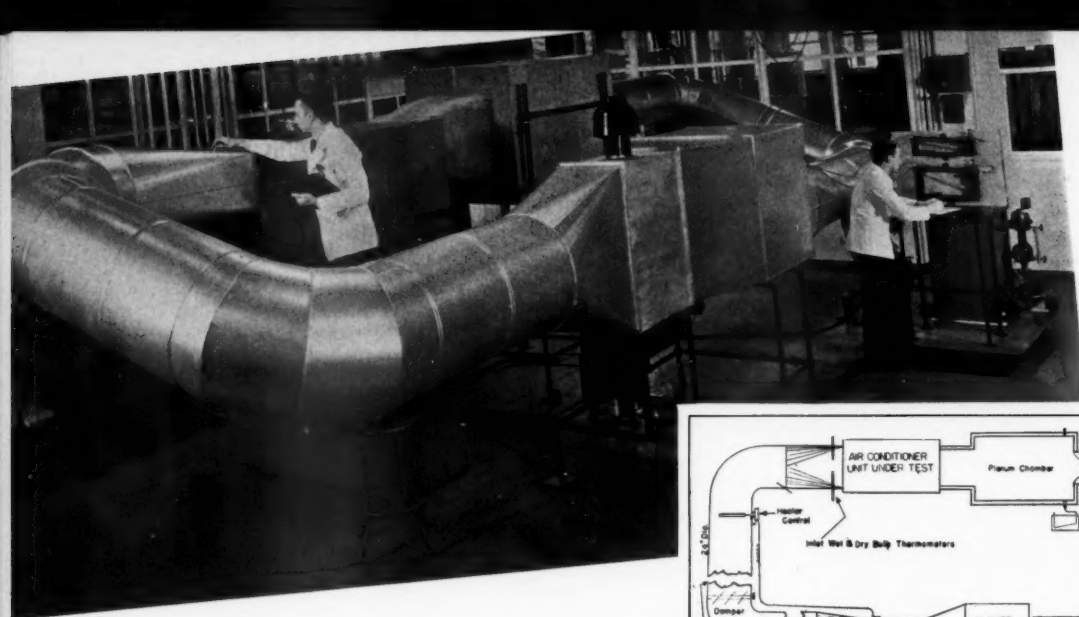
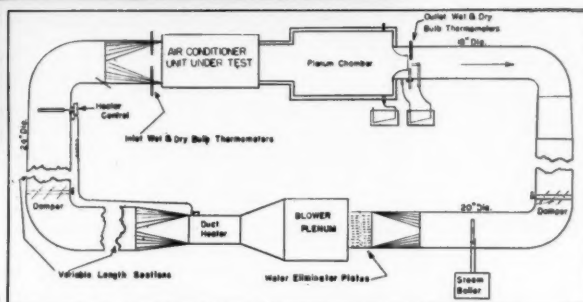


Fig. 1. Photograph and diagram of test rack for determining refrigerating effect of gas summer air conditioning units



## Research in Gas ... Summer Air Conditioning at A.G.A. Laboratories

AT the conclusion of approximately one year of research on gas summer air conditioning at the American Gas Association Laboratories, it seems appropriate to present a resumé of our progress. In some respects this might be termed an annual report.

Sincere appreciation and thanks are extended to Davis M. DeBard, chairman of the Committee of Executives, who personally raised the funds and secured the approval of the Executive Board which made possible this first year's work; to C. R. Bellamy as former chairman of the Joint Committee; to Leon Oursuff, its present chairman and first chairman of the Technical Advisory Committee, who directed the technical details for a solid foundation of practical, useful research; to G. E. May, present chairman of the Technical Advisory Committee, and to the following companies which contributed to the special research fund:

Atlanta Gas Light Co.  
Cities Service Co.  
Columbia Gas & Electric Corp.  
Gas Companies, Inc.

By R. M. CONNER

Director, A. G. A. Testing Laboratories

Lone Star System  
Northern Natural Gas Co.  
Oklahoma Natural Gas Co.  
Southern California Gas Co.  
Southern Counties Gas Co.  
Southern Natural Gas Co.  
United Gas Corp.

Grateful acknowledgment is also made of the cooperation of the manufacturers who have already supplied equipment for study, namely: Servel, Inc.; Williams Oil-O-Matic Corp.; Mills Novelty Co.; and Bryant Heater Co. By this time it will be evident that this research project has been a truly cooperative endeavor on the part of all interested groups. From a broad industry viewpoint, such an arrangement has much to recommend it.

Immediately following approval of a preliminary outline of work by the Technical Advisory Committee late in April, 1941, the Laboratories undertook the first phase of this assignment.

It consisted of a thorough survey of the air conditioning field, including a review of literature, inspection of manufacturers' facilities, visits to gas companies, evaluation of competitive status of gas summer air conditioning, and preparation of recommendations for future research based on data secured.

This survey was made in May, June, and July of last year and the findings presented in Laboratories' Report No. 938A entitled "A Survey of Gas Summer Air Conditioning." Issued first as a confidential report to the responsible committees, it was considered so valuable that it was felt advisable to make it available generally in mimeographed form. This report condenses into 130 pages, 22 tables, and 20 illustrations straightforward facts covering the gas summer air conditioning field. It is just as valuable today as it was one year ago, and anyone interested in this subject who does not have a copy should secure one.

Based on the facts developed by this survey, an outline of work embodying the following four major items was



presented and approved by the supervising committee:

1. Experimental test and research on one size each of Bryant, Mills, Pittsburgh Lectrodryer, Servel, and Williams air conditioners.
2. Assembly of data on installation and operating details.
3. Conduct of special studies on 6 listed features of gas summer air conditioners which seemed most deserving of further investigation.
4. Service as an agency for securing and distributing information on summer air conditioning.

Shortly after August 1, 1941, actual test work was started. Bryant, Servel, Williams, and Mills gas summer air conditioners were obtained and test instruments purchased and installed. A test rack for conducting cooling capacity tests was designed, constructed, and calibrated. An idea of the nature and size of this apparatus may be noted from Fig. 1. To accommodate the various types of air conditioning equipment to be studied, both adjustability and portability were found to be essential features. Each of the major portions of this equipment was mounted on supports equipped with rubber-tired wheels in order that it might be readily moved into position for connection to other sections. Means were also provided for raising or lowering essential parts.

A schematic drawing of the entire assembly is also shown. The air conditioner to be tested is shown at upper left. Conditioned air is passed from this unit through an insulated plenum chamber containing a cali-

brated impact nozzle at its outlet for measuring rate of air flow as well as wet and dry bulb thermometers for determining latent and sensible heat contents of air. Air leaving the insulated plenum chamber is drawn through louvre dampers (for adjusting air flow) and is humidified and partly heated by a steam spray. It is then passed through a set of water eliminator plates, a variable speed blower, duct furnace for heating to the desired temperature, and another set of louvre dampers before being recirculated through the air conditioning unit. An automatic heat control device regulates operation of the duct heater, and wet and dry bulb thermometers are installed at the inlet side of the unit under test for determining condition of entering air.

Employing this closed system, cooling capacity tests on a 3-ton Servel all-year air conditioner were started late in October. Their objective was to determine the performance characteristics of the conditioner over a wide range of temperature, humidity, air flow, and gas input variations. One of the tests was the so-called standard test outlined in American Society of Refrigerating Engineers Standard Methods of Rating and Testing Self-Contained Air Conditioning Units for Comfort Cooling, specifying inlet air at 80° F. dry bulb and 67° wet bulb,

Fig. 3. Front view of Williams 7-ton unit connected for test. Insulated chilled water coil connections at extreme left, 2-in. pipe tower water connections (painted white), pressure gage for measuring tower water flow mounted above cooling water by-pass valve, various thermometer wells for measuring water and solution temperatures, and insulated steam supply line

and 75° F. cooling water discharged at 95° F. Other data were obtained for practically every conceivable operating condition that might be encountered in the field. Thirteen different cooling capacity tests were made on the Servel unit, including entering air dry bulb temperatures ranging from 75 to 110° F., relative humidities from 30 to 80° F., cooling water temperatures from 60 to 90° F., air flow rates increased and decreased 25% from normal, and gas input rating decreased 50% and increased 25%.

In addition to conducting cooling capacity tests, each unit studied was subjected to applicable American Standard Approval Requirements for Central Heating Gas Appliances and for Refrigerators Using Gas Fuel. This was done primarily to determine whether it complied with reasonable concepts of safety, efficiency, and durability. Since the Servel unit is a winter air conditioner as well as a summer air conditioner, it was subjected to a complete series of tests under the Approval Requirements for Central Heating Gas Appliances. It is shown in Fig. 2 undergoing a thermal efficiency test. It should be mentioned here that the Servel winter air conditioner was also submitted for approval as a warm air furnace and is

Fig. 2. Arrangement of equipment for conducting thermal efficiency test on Servel all-year air conditioner as a central heating appliance, showing Thomas meter and control panel in background; pilot tube, draft gage, thermocouple, and potentiometer in foreground



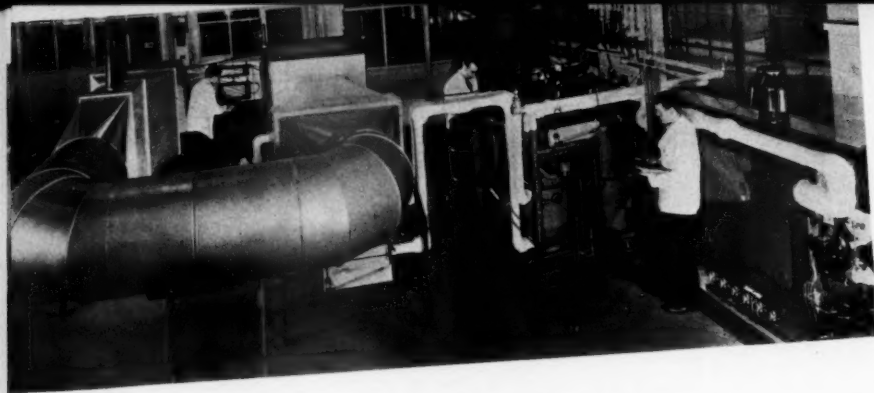


Fig. 4. Arrangement of test rack and auxiliary equipment for conducting cooling capacity studies on the Williams air-o-matic absorption refrigeration unit, showing test rack assembly at left, Williams unit at right center, and steam boiler at extreme right

now so certified by the American Gas Association.

A tentative second progress report was submitted to the Technical Advisory Committee in January, presenting results of all tests on the Servel 3-ton unit. A copy was also submitted to Servel, Inc. with the request that its engineering staff comment on the Laboratories' findings. A revised report, Laboratories' Report No. 952A, containing all comments of the committee and the manufacturer, was completed in February and was unanimously approved by the Advisory Committee at its March meeting in Pittsburgh. Tangible benefits have already resulted from this work as indicated by the fact that Servel, Inc. has made two design changes to improve performance of its units, and confirmed the desirability of changing the solvent used from lithium chloride to one less likely to solidify. Lithium bromide brine has now been adopted as the solvent.

A Williams Oil-O-Matic 7-ton unit was next examined and subjected to 21 different cooling tests. A close-up view of this package type absorption refrigeration system as installed for test is shown in Fig. 3. General arrangement of cooling capacity test rack and auxiliary equipment is presented by Fig. 4. As this unit supplies chilled water only, it was necessary to purchase a chilled water pump and cooling coil. To provide an ample supply of cooling water, a forced-draft water-cooling tower capable of handling 50 gallons per minute was purchased and installed as shown in Fig. 5. Cooling water was circulated by means of a 2 horsepower motor-driven pump designed to deliver 50 gallons per minute against a 70-ft. head.

In addition to the standard A.S.R.E. test on the Williams unit, the effect of varying inlet air temperature from 80 to 160° F. DB, 58 to 108° F. WB, air flow from 1210 to 1820 cfm., cooling tower water temperature from 80 to 95° F., cooling tower water flow rate from 25 to 50 gpm., chilled water flow rate from 20 to 33.5 gpm., and steam pressure from 7½ to 15 lb. per sq.in. gage, was determined. Results of these tests as well as experiences encountered during this work were included in a tentative third progress report prepared in February. At the March meeting of the Technical Advisory Committee, comments submitted by each member were discussed and revisions satisfactory to both the committee and manufacturer's representative were adopted. A revised Laboratories' Report, No. 955A, including data obtained on 4 additional cooling capacity tests showing the effect of lower inlet water temperatures conducted at the committee's request, was prepared in April.

An additional phase of this project was initiated in March when forms

were prepared and approved by the committee for the purpose of securing field test data. These forms and requests for information on operating results during the summer were sent to 23 gas companies having gas summer air conditioners on their lines, by the chairman of the Joint Committee on Air Conditioning. Data secured will be correlated by the Laboratories' staff so that a running record of experiences with various types of air conditioning systems will be obtained.

Examination of a Mills 3-ton absorption system was also practically completed in April. As this unit has a built-in cooling tower and ice storage compartment and may function as a refrigerator to circulate anti-freeze liquids at temperatures below 32° F., additional tests to evaluate the performance of these features will be applied. These tests were made in addition to the series of cooling capacity tests previously outlined. A tentative report of findings from 21 cooling capacity determinations and several other performance and construction tests is being prepared. This particular unit is illustrated in Fig. 6.

Next on our schedule is a Bryant 14-R air conditioner equipped with an evaporative cooler. This unit, shown in Fig. 7, was installed last spring for air conditioning the Laboratories' Library and Committee Meeting Room during summer months. While in operation, considerable information of a practical nature was obtained and applicable construction and performance tests, other than cooling capacity ratings, were recorded.

It is considered inappropriate to release data secured on the three condi-

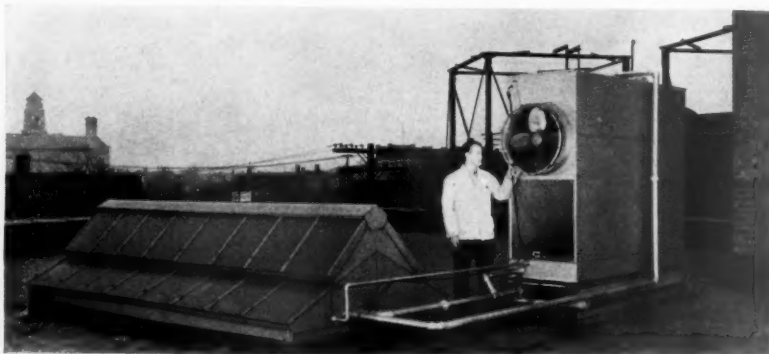


Fig. 5. Forced draft water cooling tower on roof of A. G. A. Testing Laboratories building

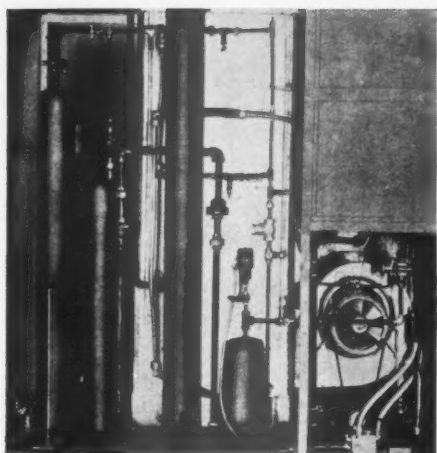


Fig. 6. Mills absorption type summer air conditioning unit. Left view shows generator, heat exchanger, absorber, receiver, balance valves, pilot control. At right is shown evaporative condenser, heater coils and ribbon-type gas burners

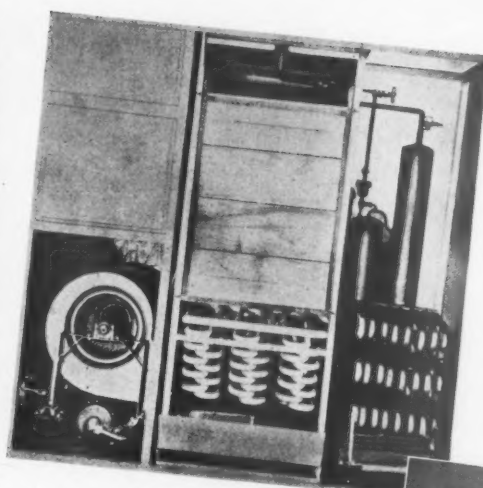


Fig. 7. (Below) Photograph of Bryant 14R installation for cooling library and committee room of laboratories and for test purposes

tioners already tested until work on all units covered by the outline has been completed and approval given by the Technical Advisory Committee and supporting manufacturers. It will be apparent from the information reported that a large amount of data have already been obtained and thoroughly reviewed by capable engineers. Pertinent portions are already in the possession of the interested manufacturers and are being employed by them to perfect their products. When laboratory results are translated into factory production, the real objective of this research has been accomplished. Further, such developments are convincing evidence of the soundness of our Association's plan for conducting cooperative research. We intend to prepare and publish a complete bulletin on this subject.

In these days every research project is rightfully being analyzed for its relation to the successful promotion of our war effort. Gas summer air conditioning research has been thoroughly considered in the light of this broad objective. Majority opinion indicates that this vital activity should not only be continued, but encouraged in every way consistent with the available resources of our industry. Air conditioning by dehumidification has already passed the experimental stage and is being widely used in war industries and many industrial processes. Reports of installations being made by Bryant Heater Company, Surface

Combustion Corporation, and Pittsburgh Lectrodryer amply verify this statement.

Absorption refrigeration air conditioning processes for residential and small commercial buildings have likewise passed the experimental stage and are now in that very important phase of being tested in the field for the primary purpose of eliminating troublesome items which inevitably arise in the application of any new and complicated type of mechanical equipment.

In addition to field studies and accumulation of data based on actual operating experience, continuation of investigational work in scientific laboratories during the war period seems highly essential. Every forward-looking industry is continuing research in these times to the limit of its ability. Its importance is well illustrated by the fact that the War Production Board is sponsoring post-war activities, and high priorities have been granted to research laboratories. Full advantage of these circumstances should be taken in furthering all of our present efforts.

With unalterable faith in the fact that our country will survive this crisis and that we can serve it best by doing our everyday tasks to the best of our ability, it is my belief and hope that this important research project on gas summer air conditioning will be continued as long as it produces worthwhile results. My concern also extends far beyond our Laboratories' interests and activities. It is my recommenda-

tion that manufacturers also continue their research and development work and that utilities cooperate fully with them by installing, servicing, and securing field data on this type of equipment. If such a plan is followed, this new industry should expand and, above all, be in a position, when this war is over, to contribute promptly its rightful share in elevating the living standards of the American people.

### On Fuels War Council

W. G. RUDD, vice-president of The People's Gas Light and Coke Co., Chicago, was recently appointed a member of the Solid Fuels Advisory War Council by Harold L. Ickes, solid fuels coordinator.



## 1942 Natural Gas Proceedings Out

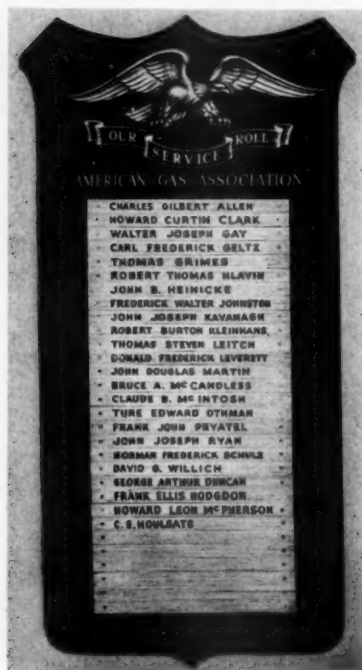
THE 1942 Annual Proceedings of the Natural Gas Section of the American Gas Association were published early in August. Containing 259 pages, this book reproduces copies of all papers and reports presented at the annual meeting of the natural gas industry in New Orleans, May 4-7, 1942. It brings together under one cover the material presented at nine separate conferences.

The Proceedings reflect in full measure the invaluable service the natural gas industry is rendering during the war emergency. Addresses by the Honorable Harold L. Ickes, Petroleum Coordinator for War, and outstanding leaders within and outside the gas industry are all a part of this valuable reference book.

In addition to the over-all subjects discussed at the general sessions, complete reports of the following meetings are included: accident prevention, accounting, industrial and commercial gas, production, residential and transmission. A large amount of valuable technical information of interest to natural gas men is incorporated.

Copies of the 1942 Natural Gas Section Proceedings are available to A. G. A. members at \$2.00 per copy; \$4.00 to non-members. A limited supply is available.

## A G. A. Honor Roll



A growing list of employees of the American Gas Association who are in the Armed Forces appears on this plaque which is mounted in the lobby of A. G. A. headquarters in New York



Marguerite Kirby, formerly home service director of the Old Colony Gas Company, East Braintree, Mass., posing with officials of the company before forsaking the home front for the fighting front. Miss Kirby has joined the W.A.A.C. and is now in training at Fort Des Moines, Ia. Shown with her are, left to right: W. A. Cronin, advertising manager; R. P. Chase, sales manager; and H. B. Hall, manager

## Home Service Director Joins W. A. A. C.

MARGUERITE KIRBY, home service director of the Old Colony Gas Company, East Braintree, Mass., has joined the Women's Army Auxiliary Corps for officers' training at Fort Des Moines, Ia. Miss Kirby successfully passed the intelligence test, the physical requirements and two separate boards before being admitted in the second class of the W. A. A. C.

A graduate of Framingham Teachers College with a Bachelor of Science degree, Miss Kirby became home service director of the gas company in November 1941. Since that time, she has conducted numerous demonstrations throughout her territory and instructed several Red Cross nutrition classes. In the past few months, before joining the first "lady officer" corps of the Army, Miss Kirby devoted most of her efforts on the Servel Home Volunteer movement which the gas company has adopted.

## Helium Expansion

HELIUM, that rare and noninflammable gas of which the United States Government possesses a world monopoly, will be produced in greatly increased quantities to meet expanding wartime demands under a program recently inaugurated by the Bureau of Mines, it was announced recently by Dr. R. R. Sayers, Director of the Bureau.

Millions of additional cubic feet of lightweight helium will flow from the Bureau's enlarged helium plant at Amarillo, Texas—the only helium operating plant in the

world. This helium will be processed from gas produced from Government wells now in operation in Texas. In addition, a new helium production plant at an unannounced location will be supplied with helium-bearing natural gas from an existing pipe line transporting gas for fuel markets, he added.

## Postcard Billing is Approved

THE Public Service Commission of New York granted permission August 11 to New York gas and electric companies to use postcards for billing purposes to save costs and conserve materials. The commission ruled companies using this method must furnish to customers a card giving rates and the classification under which the customer is served. Users also must be notified by card of change in rates. Most companies send bills in sealed envelopes.

The commission recently granted a permit to Niagara Hudson system companies to read meters bi-monthly and quarterly to save tires and gasoline.

## Gas Heating Limited

THERE will be no gas heating this winter for new Long Island houses or recent heating-plant conversions, the Public Service Commission of New York ruled August 14. Four Long Island utilities proposed such a ban, officials said, when more than 325 new applications for gas heat poured into their offices within a few weeks. There will be no limit on gas for cooking.



# Gas Utilities Sales . . . Rise Sharply

## *During First Six Months of 1942*

AS far as war goes, the American gas industry is a seasoned campaigner. World War II represents the fifth major struggle in which America has been involved through which our industry has operated.

The present conflict, however, is waged on a world wide scale, and dwarfs the previous endeavors in all instances. This is a war of production, the acid test for America's system of productivity, for mechanized instruments of war must be sent to our fighting forces stationed in far flung corners of the world.

The gas industry represents a force vital to innumerable processes necessary in the production of war materials. Too, it is a service essential to the maintenance of millions of American homes.

It is for this reason that the figures recording the trends of the gas industry for the first six months of 1942 take on added meaning, for they represent this industry's activity through a six-month period of Total War.

### Manufactured and Natural Gas

Total customers served by manufactured and natural gas utilities amounted to 18,734,600 on June 30, 1942. As compared to the same date a year ago, this represents an increase of 647,000 customers, or 3.6 per cent. Residential customers increased 623,100 to 17,679,100, while non-residential customers totalled 1,055,500, or 23,900 more than were reported on June 30, 1941.

Revenues of manufactured and natural gas utilities aggregated \$538,094,700, or 9.5 per cent more than for the first six months of 1941. Revenues from the sale of gas for industrial uses gained 12.6 per cent, while revenues derived from residential sales (domestic and house heating), increased 8.5 per cent. Commercial revenues also increased 8.5 per cent over the same period of last year.

By EDWARD R. MARTIN

*Statistician, American Gas Association*

### Manufactured Gas

Sales of manufactured gas registered sharp increases in all classes for the first half of 1942, the largest percentage increase being recorded by "Industrial." This classification increased 18.6 per cent to 45,300,300,000 cubic feet for the period ending June 30, 1942. This represents an actual increase of 7,100,900,000 cubic feet over the total of 38,199,400,000 cubic feet reported during the first half of 1941.

Increases in other classes of manufactured gas sales were as follows: Domestic, 2.4 per cent; House Heating, 16.8 per cent; Commercial, 4.7 per cent. The total sales amounted to 232,374,200,000 cubic feet, or 8.7 per cent more than for the first six months of 1941.

Customers connected to the lines of manufactured gas utilities on June 30, 1942 totalled 10,542,300. This represents an increase of 2.7 per cent, or 277,500 over the number reported on the same date of 1941.

The main body of these additional users were classified as "Domestic."

Totalling 9,705,700 on June 30, 1942, this classification recorded an increase of 213,500 over the figure reported on the same date a year ago. During the same period, house heating customers rose to 358,500, an increase of 65,500; industrial customers increased 1,400 to 35,700. Commercial customers declined to 430,700, a drop of 3,500 from the number reported on June 30, 1941.

### Natural Gas

Natural gas sales for the first half of 1942 also reflect substantial increases over the same period of last year. Industrial sales increased 7.7 per cent to 427,206,100,000 cubic feet. This is an actual rise of 30,420,200,000 cubic feet over industrial sales recorded during the first six months of the preceding year. Sales for electric generation increased 15.2 per cent and totalled 103,953,400,000 cubic feet for the first six months of this year.

Total sales of natural gas, up to, and including June 30, 1942, amounted to 931,814,400,000 cubic feet, an increase of 11.6 per cent, or 97,146,200,000 cubic feet from a year ago. Sales for domestic purposes (including house heating) increased 13.9 per

TOTAL MANUFACTURED AND NATURAL GAS INDUSTRY FOR  
SIX-MONTH PERIOD ENDING JUNE 30, 1941-1942

	1942	1941	Change	Per Cent Change
<i>Customers</i>				
Domestic (Incl. House Heating)	17,679,100	17,056,000	+	623,100 + 3.7
Commercial	962,300	942,200	+	20,100 + 2.1
Industrial	78,900	75,900	+	3,000 + 4.0
Miscellaneous	14,300	13,500	+	800 —
Total	18,734,600	18,087,600	+	647,000 + 3.6
<i>Revenue (Dollars)</i>				
Domestic (Incl. House Heating)	354,390,100	326,627,100	+	27,763,000 + 8.5
Commercial	64,212,000	59,188,900	+	5,023,100 + 8.5
Industrial	116,099,900	103,133,800	+	12,966,100 +12.6
Miscellaneous	3,392,700	2,514,100	+	878,600 —
Total	538,094,700	491,463,900	+	46,630,800 + 9.5

cent; commercial sales were up 17.3 per cent.

Natural gas customers increased 369,500, or 4.7 per cent, to 8,192,300 on June 30, 1942. As in the case of manufactured gas, the bulk of this increase was recorded in "Domestic" which now totals 7,614,900 or 344,100 more than a year ago. Industrial users increased 1,600 to 43,200, and commercial, now numbering 531,600 customers, increased 23,600 over the number served on June 30, 1941.

## Meter Reading Put on Quarterly Basis

THE Public Service Electric and Gas Company of New Jersey announced August 19 that effective September 1 meters in homes served by the company in outlying territories would be read quarterly instead of monthly. The company said the plan, evolved to curtail use of gasoline and rubber, would bring about a reduction of 75,000 automobile miles a year. The system will ultimately embrace 75,000 of Public Service's one million customers, the statement said.

Under the plan, an average bill will be mailed to customers for the months during which the meters are not read.

## Arm Band Insignia for Utility Employees



THE Office of Civilian Defense has prescribed official arm band insignia for various units of the United States Citizens Defense Corps. The insignia "shall consist of white equilateral triangle embossed on a circular field of blue similar to the basic insignia of the O. C. D." For utility repair squads the identifying device, in red, is a pair of pliers, jaws closed, handles downward. A patent for this device is pending.

The general and special regulations have been published on page 3242 of the Federal Register for May 1, 1942. The insignia is shown above.



Another war casualty—Carl Sorby's gas cooking "prop," the oyster pail, goes on the shelf

## Sorby's Oyster Pail On Shelf For Duration

MARKING the close of gas range production for the duration of the War, E. Carl Sorby, vice-president of the Geo. D. Roper Corporation, Rockford, Illinois, put away his well-known and much beloved oyster pail. This battered old pail was an important part of his assorted and "specially designed" cooking equipment.

In all of his journeys throughout the United States and Canada, Mr. Sorby has carried the oyster pail with him as a constant companion. Presented before hundreds of sales groups, service groups, public audiences and conventions, the oyster pail was used to dramatize the fact that a modern gas range "Simmer" burner will do "waterless" cooking without the need of special equipment. The pail has become almost as well known as Carl Sorby himself. Even today it serves as a reminder of those easy, care-free cooking days.

It is estimated that during the last eight years the oyster pail has travelled a total of at least 590,000 miles, has cooked over 2120 pounds of vegetables and has been seen by not less than 350,000 people.

## World's First Gas Tank Saves English Factory

THE world's first gas tank, erected in Birmingham, England, in 1799 by William Murdock, inventor of a method of distilling fuel gas from coal, saved a factory from destruction by fire recently during a German air raid, according to a report published Aug. 2 in the *New York Herald-Tribune*.

Now a rusty relic, retained more as a museum piece than anything else, the tank is used as an emergency water reservoir. It came in handy during an air raid when a nearby factory caught fire. Murdock originally designed the tank to hold gas to light a factory in which he worked.

## Natural Gas Reduction Process for Zinc

AN entirely new gas reduction process utilizing natural gas for the reduction of zinc-bearing ores, developed by earlier experiment at the Bureau of Mines, Berkeley, Calif. (Report of Investigations—3256), will be tested on a semi-commercial scale by the Bureau at a newly authorized pilot plant and laboratory which will probably be built somewhere in the South Central section of the United States. Based on experiments dating back more than a decade, the Bureau's process successfully has passed tests conducted on a laboratory-size furnace and has been found superior in several instances to commonly used commercial methods. It was felt desirable to conduct additional tests on a commercial scale furnace, or pilot plant, and certain alterations and adjustments must be expected before a method suitable for industrial use can be developed.

By this new process, the Bureau's war program plant method uses natural gas in several stages of a reducing cycle from which ore concentrate emerges as high-purity zinc. The Bureau believes that the untapped reserves of zinc ores and the abundance of natural gas can be paired successfully into an industrial team which will speed the output of zinc essential to the manufacture of galvanized iron, zinc alloy die castings, brass cartridge cases for guns, batteries and a multitude of other items.

Experiments by Bureau metallurgists indicate that it may be possible to extract as much as 95 per cent of the zinc from the ore at a substantial reduction in production costs by this new process.

## Seaver Retires

F. E. SEAVER, secretary of the Southern California Gas Company since 1938 and an employee of the company or its predecessors for 35 years, retired August 1. R. R. Blackburn, general agent for the company, was elected secretary to succeed Mr. Seaver.

## A. G. A. Work Held Vital in Wartime

"I think that the services of the Association are more important during this period than any that we have passed through in recent years. Your informative communications on government regulations and the splendid service your Washington Representative is rendering your members makes a membership in the American Gas Association not only a vital need, but a real asset."

—President of an Ohio gas company in a letter, July 17, 1942

# Personal AND OTHERWISE

## Crankshaw Retires, Platt Promoted

**J**WARD CRANKSHAW, sales manager of the Allentown-Bethlehem Gas Company, Allentown, Pa., for more than thirty years, retired recently to enjoy a well-earned rest from active duty. Harry M. Platt, former commercial and industrial representative for the company, succeeds Mr. Crankshaw as sales manager.

Since Mr. Crankshaw joined the gas company in 1912, its customers have grown from approximately 10,000 to 46,000, a splendid tribute to the solid sales foundation laid under his direction. He joined the company after spending six years with the United Gas Improvement Company. Prior to that time he had been employed by the Frankford Coal and Lime Co. as office manager. He is well known for his outstanding contributions to the civic and industrial life of Allentown and Bethlehem and for his keen interest in fine horses.

Mr. Platt is a graduate of the University of Pennsylvania with a B. S. in Mechanical Engineering. He joined the staff of the industrial division of the Philadelphia Gas Works Company in 1933 and three years later became associated with the Allentown-Bethlehem Co. as industrial engineer. As a member of the company's Priorities Committee, he is particularly aware of the problems confronting the New Business Department under today's conditions.

## J. L. O'Toole Retires



John L. O'Toole

He will continue as a director according to Thomas N. McCarter, chairman of the board.

In 1909 when he was city editor of *The Newark News*, Mr. O'Toole was hired by Mr. McCarter, then president, to take charge of publicity for Public Service. His first position with the company was as pub-

licity agent, his work being the forerunner of that of the company's present publicity and advertising department which he organized.

Mr. O'Toole was made assistant to the president in 1917 and was named vice-president in charge of public relations six years later. He was elected a director of the corporation in 1938.

## Public Service Men Get New Posts

**C**HANGES in organization of Public Service Corporation of New Jersey were announced in August as follows:

Vice-President Robert A. Zachary became vice-president in charge of public relations.

The office of director of publicity was disassociated from the office of vice-president in charge of public relations. Walter Fox Allen is in charge of the publicity and advertising department, continuing as heretofore as director of publicity.

These changes were occasioned by the retirement on August 19 of John L. O'Toole as vice-president in charge of public relations.



Walter F. Allen

Mr. Zachary was a Washington correspondent for *The Brooklyn Eagle* for seventeen years. He also served in the Washington Bureau of *The Newark News*. In 1921, Mr. Zachary left newspaper work to become secretary to Walter E. Edge, then United States Senator, and remained with him until Mr. Edge became Ambassador to France. Mr. Zachary also served with David Baird, Mr. Edge's successor in the Senate, before becoming associated with Public Service in 1930 as executive assistant to the vice-president in charge of law. In 1937, he was made assistant vice-president in charge of public relations and two years later was elected a vice-president.



Robert A. Zachary

Mr. Allen, after newspaper experience in Buffalo, became associated with the *Trenton Times* in 1903, serving successively as news editor and managing editor. Later he went to the *Newark Evening News*, where he was a reporter, assistant city editor and assistant news editor.

He resigned from *The News* in 1922 to become an assistant to Mr. O'Toole and was made assistant director of publicity in 1926. In 1931, Mr. Allen was promoted to director of publicity.

## Brundage Gets New W.P.B. Appointment

**A**PPPOINTMENT of H. M. Brundage as deputy regional director of the War Production Board in New York City was announced recently by John P. Maguire, regional director. Mr. Brundage had served since last March as chief of the Appliance Section of the W.P.B. Plumbing and Heating Branch.

Widely known in the gas industry, Mr. Brundage previously had managed his own business, the H. M. Brundage Co., in Richmond and Norfolk, Va. Prior to that time, he had been general sales manager of the Washington Gas Light Company and was prominent in affairs of the American Gas Association.



H. M. Brundage

## Receives Rotary Award

**L**OUIS RUTHENBURG, president of L. Servel, Inc., Evansville, Ind., and president of the Indiana State Chamber of Commerce, has been awarded the Evansville Rotary Club's service award for "outstanding community service during the past year."

The award was made in tribute to his "leadership in the industrial activities of Evansville," in recognition of his "influence upon healthy industrial conditions for the city's welfare," and "in appreciation of the honor reflected upon the community by his devotion to the highest ideals of American citizenship."

## Becomes Captain in Army Air Force

**B**ERNAL E. CLARK, advertising and sales promotion manager of Florida Power & Light Company, Miami, has been commissioned first lieutenant in the Army Air Force and is temporarily stationed at Miami Beach. During the first World War, he served two years in the army, going to France with the 35th Division, where he was a regimental observer on the front lines in two major offensives.

## Roper Man Advanced



Floyd K. Lawson

**T**WO men with a number of years' background with the Geo. D. Roper Corporation have recently taken over new duties with the company.

Floyd K. Lawson, formerly sales director of the Range Division, has been elected secretary-treasurer to take the place of T. J. Reynolds, deceased.

E. Carl Sorby has been elected vice-president in immediate charge of gas range sales. Since gas range production was stopped July 31 Mr. Sorby's work will be closely associated with war production for the duration.



E. Carl Sorby

Mr. Lawson has more than 25 years' experience with Roper during which time he has worked in various departments. During the last 15 years his work has been in range sales.

Mr. Sorby is well-known throughout the entire United States and Canada for the work he has done in promoting gas cookery and the CP gas range through utility and dealer groups. Over a period of years he has appeared on every state and national gas convention program. He has recently been elected a member of the board of directors of the Liquefied Petroleum Gas Association.

## Jones Succeeds Smith as Sales Manager

**R**ETIREMENT of J. Calhoun Smith, who had been sales manager of the Consumers Gas Company, Reading, Pa., since September 25, 1916 was announced recently by Allyn C. Taylor, president. Gordon M. Jones, who for nearly 25 years had been associated with The United Gas Improvement Company in Philadelphia, was appointed to succeed Mr. Smith.

Mr. Smith started with the Philadelphia Gas Works as a salesman in June, 1910, and he was appointed sales manager in Reading in September, 1916. During his 26 years there, he witnessed great developments in the acceptance of gas for the four big jobs in the homes in Reading.

Mr. Jones started with the U.G.I. in Philadelphia in October, 1917 in the engineering department, and after a number of years in various departments became editor of the U.G.I. Circle. For the past 10 years he had been handling the advertising and sales promotional work for a number of companies in the U.G.I. system.

On November 17, 1941 he was transferred to Reading as assistant sales manager of the Consumers Gas Company, and assumed his new position as sales manager of that company on July 1, 1942.

## Boston Executives Win Promotions

**E**LECTION of E. H. Eacker, Otto Price and Thomas F. Smith to vice-presidencies of the Boston Consolidated Gas Company was announced recently by E. M. Farnsworth, president.

Mr. Eacker joined the Boston company in 1931 as assistant to the vice-president in charge of distribution. Since 1937, he has been assistant to Mr. Farnsworth. He is a graduate of Massachusetts Institute of Technology.

Mr. Price has been auditor of the Boston Consolidated since 1936 and is now vice-president in charge of accounting. He joined the company in 1925 after 12 years with the Citizens Gas Light Co. of Quincy.

Mr. Smith, formerly assistant vice-president in charge of distribution, was promoted to vice-president in charge of distribution. He became affiliated with the company in 1926.

## Honored for Good Citizenship



Mayor Creech

**F**ULTON B. CREECH, Mayor of Sumter, S. C., was presented a beautiful silver service set recently in recognition of his selection as the citizen who rendered the most outstanding unselfish service to the community during the past year. The gift is donated annually by A. T.

Heath, president of the Carolina Coca-Cola Bottling Co., and was presented at a dinner attended by civic and business leaders.

Mayor Creech served in France during the first World War and is now engaged in practically every phase of civilian defense. Known as the "sparkplug" of a dynamic city, the Mayor is generally credited with the fact that Sumter enjoys one of the lowest tax rates of any city in the South.

## Naval Commander

**P**J. GRIFFIN, for several years district sales manager of Servel, Inc. in the eastern Pennsylvania territory, has reported for active duty in the U. S. Navy as a Lieutenant Commander.

## To Compile Records of George B. Cortelyou

**A**RTHUR E. FISHER, of East Orange, N. J., has retired as staff assistant in the office of the vice-chairman of the board of Consolidated Edison Co., of New York, after 33 years' service. Mr. Fisher went with the company in May, 1909, as a stenographer in the office of the president, George B. Cortelyou. He became secretary to Mr. Cortelyou in 1925 and remained in that capacity until Mr. Cortelyou's retirement in 1935. He then became staff assistant.

Mr. Fisher plans to examine and sort the personal papers of Mr. Cortelyou for a collection to be sent the Library of Congress. The collection will be added to the records of the period in which Mr. Cortelyou held three Cabinet offices during a single administration.

Mr. Cortelyou was first president of the American Gas Association.

## Michigan Natural Gas Men Advanced

**F**OUR veteran members of the Consumers Power Company's natural gas organization in Michigan assumed new titles and added responsibilities August 1.

H. L. Fruechtenicht, Jr., who was gas field superintendent, is now general natural gas superintendent. He will have charge of all phases of natural gas production, compression and transmission, reporting to D. E. Herringshaw, general gas engineer.

H. J. Neilson, formerly gas transmission superintendent in the Bay City-Saginaw divisions, has assumed charge of transmission through all company pipelines, including those serving the Lansing and Alma areas. His title is natural gas transmission superintendent.

Don G. Daykin, formerly gas production superintendent of the Flint division, is now compression superintendent, in charge of the operation of four compressing stations. Another to be built within the next few months on the Muskegon River in Clare County also will be under his jurisdiction.

Clarence M. Peters, previously assistant to Mr. Fruechtenicht, has succeeded him as gas field superintendent. He has charge of production in the eight Michigan gas fields where Consumers operates.

The reorganization is in line with the current expansion of the company's natural gas operations.

## Sir Francis Joseph Honored

**S**IR FRANCIS JOSEPH, Knight of the British Empire and President of the Society of British Gas Industries, was made a Baronet by King George VI as one of the King's birthday honors. Sir Francis' correspondence with President George Hawley has been widely printed in the United States.



## Pacific Coast Gas Annual Meeting



R. S. Fuller

THE forty-ninth annual meeting of the Pacific Coast Gas Association will take place Friday, September 4, at the St. Francis Hotel, San Francisco. Devoid of frills and entertainment, the meeting will deal strictly with business connected with the war economy.

The morning session will be devoted to reports of the president and section chairmen, election of officers and report of the Awards Committee. The afternoon will be given over to meetings of the board of directors and other executive groups. R. S. Fuller of San Francisco is president of the Association.

The General Nominating Committee has announced that the following nominations will be presented at the meeting: For president—F. M. Banks, vice-president, Southern California Gas Co.; for vice-president—E. L. Payne, vice-president and general manager, Payne Furnace & Supply Co.; for treasurer—D. G. Martin, general auditor, Pacific Gas and Electric Co. Directors slated for election are: R. G. Barnett, E. H. Coe, H. W. Edmund, F. A. Woodworth, and A. H. Sutton.

## Sets Safety Record

DR. THOMAS DOBBINS, medical and safety director of Servel Inc., Evansville, Ind., reports one of the best safety records in the history of the company for a six-month period ending June 30.

Only two lost time accidents occurred during the first six months of 1942, as compared with five for the corresponding period of 1941. During the first half of this year the plant was being converted to new work and materials, adding to the merit of the record, it was pointed out.

## Book Review

*Handbook, Butane-Propane Gases, Third Edition*; edited by Arthur Rohman and Justus M. Krappe; 342 pages and 140-page catalogue and equipment section; cloth; photographs, charts, tables; published by Western Business Papers, Inc., 1709 West Eighth Street, Los Angeles; \$5.00.

Completely revised and rewritten edition of this valuable reference book for dealers, distributors, salesmen, and others interested in the liquefied petroleum gases. Originally published in 1932, this handbook has

grown along with the industry. In seven years the sale of LPG has increased more than 600 per cent; in 20 years it has grown 2,000 times.

The book is divided into eight parts, giving the history of the LPG industry; the physical and chemical properties of the gases, with volume correction factors, methods of analysis and testing, and fire protection and control; description of the production processes; methods of transportation and storage; sales and distribution; the various more-important uses; regulations of governmental and other agencies covering the handling of LPG; and an appendix with tabular material, a bibliography, and a glossary of terms. The catalogue section lists manufacturers and other suppliers, and contains catalogue-type advertisements of a number of manufacturers.

## Washington Gas Light Company Expands

TO meet the needs of its greatly increased business the Washington Gas Light Company, Washington, D. C., has acquired a new general office building at Eleventh and H Streets, N.W. It opened for the transaction of business, July 20.

Designed to accommodate hundreds of workers in many departments of this Washington institution—organized in 1848, the new building is one of the largest commercial structures in the city and embodies the highest attainments in architectural design and construction. For the present the gas company will use a portion of it; the remainder will be occupied by our government for use as war emergency offices.

The property being vacated at 411 Tenth Street is one of the landmarks of older Washington and served as headquarters of the gas company, the city's first public utility company, for 76 years. This, together with other offices being surrendered, will release valuable floor space to serve other urgent demands.

## Utility Service Flag



Raising the service flag of the Consolidated Edison Co. of New York, Inc., showing that 1559 employees, the largest number in the metropolitan area for a single company, are now in the U. S. Armed Forces. In the picture are, left to right: Lt. H. J. Bachmann, U. S. Navy; Mrs. A. Garcia, who has a son in the service; and Oscar H. Fogg, vice-chairman of the board of trustees

## Joins Air Corps

ALDEN W. FOSTER, natural gas and petroleum engineer of 2247 Oliver Building, Pittsburgh, Pa., has closed his office during the war period. Mr. Foster has enlisted in the U. S. Army Air Force and has received an appointment as Captain in the Ferry Command, reporting for duty August 13.

## Southern Meeting Suspended

THE Annual Meeting of the Southern Gas Association which would normally be held in February 1943 has been indefinitely postponed because of the war emergency, according to an announcement by L. B. Denning Jr., president. Other functions and activities of the Association will be carried on without interruption.

## CONVENTION CALENDAR

### SEPTEMBER

Sept. 4 Pacific Coast Gas Association  
San Francisco, Calif.

### OCTOBER

Oct. 5-6 American Gas Association  
Annual Meeting  
La Salle Hotel, Chicago, Ill.

12-14 American Society of Mechanical Engineers  
Rochester, N. Y.

27-29 National Safety Congress  
Chicago, Ill.

### NOVEMBER

Nov. 24-29 National Chemical Exposition and National Industrial Chemical Conference  
Sherman Hotel, Chicago, Ill.

30-Dec. 1 National Industrial Council  
Waldorf Astoria Hotel,  
New York, N. Y.

30-Dec. 4 American Society of Mechanical Engineers, Annual Meeting  
New York, N. Y.



# Accounting SECTION

LYMAN L. DYER, *Chairman*  
L. A. MAYO, *Vice-Chairman*  
O. W. BREWER, *Secretary*

## The War and the Office

**B**USINESS as usual" we have been told is a thing of the past and we are brought daily to a further realization of this fact. Therefore, it will be well for all of us to re-adjust our approach to problems so that they may be solved in the future on the basis of *business assisting in an all-out war effort*. Of course our regular business must continue too, but immediate expansions, contractions, or other changes must be related to the major problem of the entire nation, that of bringing the war to a satisfactory end.

Some changes are forced on us and others are made voluntarily. Let's review briefly a few happenings prior to the war that have affected our office procedures in recent years:

### I. Taxes

- (a) Federal Electric Energy Tax at first paid by our customers, then in a few months paid by the utility, but still based on billings to certain customers.
  - (b) Sales Taxes applying to both utility service billings and merchandise sales.
  - (c) Service and Use Taxes.
  - (d) Payroll Taxes—Social Security, Old Age Benefits, and Unemployment involving extra payroll deductions, etc.
2. Uniform classification of accounts with the required classification of Plant and in many instances the complete revision of ledgers and reports.
3. "Regulation W" restricting installment sales procedures.
4. Shortly before war was actually declared the Priority Restrictions issued by OPA and now being administered by WPB on a more strict war basis.

These are only a few of the many but they are mentioned merely to remind you that changes in our methods are frequent these days and something with which we are familiar. We will, therefore, accept whatever changes are necessary as a result of the war and adjust our methods and procedures accordingly.

How will the *WAR* affect the office? We refer to the office in the broad sense to mean—

- I Office Personnel
- II Office Machines and Equipment
- III Office Methods
- IV Office Stationery and Printed Forms
- V Office Supplies, commonly referred to as Stationery Supplies

Let's take each of these divisions separately and consider briefly how each will be

By C. H. NEWTON, JR.

*Public Service Company of Colorado,  
Denver, Colorado*

or is being affected by the war and by doing business under wartime conditions.

### I. Office Personnel

Adequately trained office employees will be more than ever necessary now. Each job in the office should be "covered" by two or more trained men. One man can "cover" several jobs, that is, he can have a working knowledge of the jobs sufficient to enable him to train a new employee on several different jobs. Such key men are valuable, so guard them well.

The work performed by the office personnel can be expressed in terms of man-hours. There are several ways by which the required man-hours can be supplied in event employees leave due to military service or civilian employment: (1) New employees can be hired (older men, women and men with minor physical disabilities); (2) The remaining employees can work longer hours; (3) Methods can be streamlined to require fewer man-hours of work. Probably all three of these methods will be utilized in actual practice.

The old saying "Don't cross your bridges until you come to them" is all right in many instances, but it would be a good idea to have a plan as to what to do in case the bridge is washed out or you may find yourself swimming in the stream instead of crossing the bridge.

The only answer to the personnel question is adequate training, so if you haven't already done so, review each job and "cover" those immediately that are not sufficiently well protected. When your key man is not otherwise occupied, he should be kept busy streamlining outmoded methods and procedures.

### II. Office Machines and Equipment

All indications are that your present machines and equipment must last for the duration. Economics has, at least temporarily, ceased to be the guiding factor on machine installations and replacements. Factories are either supplying the military forces with equipment or are being used to produce other more important items of war equipment or they have been restricted to conserve the raw materials for other uses. It is apparent why we must maintain our

typewriters, adding machines, calculators, bookkeeping, billing, addressing machines at regular intervals to prolong their useful life. Maintenance contracts on these machines should materially help to prolong their lives.

It is well to remember too that unnecessary use wears these machines. Write shorter letters, it takes the stenographer less time and there is less wear on the typewriter. Don't abuse these machines and equipment in any way. Heavy weight cards and envelopes can better be written by hand in many instances, they cause excessive strain on typewriters.

### III. Office Methods

An ever watchful eye should be kept trained on office methods which must be modified and changed continually to meet ever-changing conditions. It is entirely possible that the personnel or equipment difficulties will necessitate changed methods. It is certain that new regulations and restrictions under which we must operate will require both the installation of new procedures and methods and modifications of the old. Duplications should be eliminated though internal office checks consisting of separated controls, self-balancing forms, pre-auditing of certain items, provide the most efficient methods of operation.

Hand books are valuable aids in following office methods. They should serve well in the training of new personnel. Be sure the office manual or hand book is always up to date. Frequent revision dates should be established so that changes will be recorded often and regularly. Special instructions, not readily includible in manuals or hand books, should be serially numbered for reference and bound or filed in a manner to facilitate ready reference. These instructions should be made available to all employees affected. Often the fact that instructions are not followed is because of a failure to pass the information on to the proper persons.

Some companies have a separate department to study office methods and make changes effective or to install new procedures and fit them into existing practices. Whether or not a separate department is necessary depends on the size of the organization; but whether in a large or a small company, the problem of Office Methods needs constant attention.

There is a sufficient amount of "red tape" or required routine forced on us and we must use care to see that all of it not

absolutely necessary is eliminated. Quite often it is more economical to keep detailed basic records from which studies and analyses can be prepared rather than to build up continuing records of a voluminous nature attempting to analyze an operation currently. This is not always possible, but should be practised wherever the circumstances permit.

#### IV. Office Stationery and Printed Forms

Under the direction of the Pulp and Paper Industry Branch of the War Production Board a comprehensive program has been prepared covering the simplification and standardization of printing papers. This program is designed to save over 175,000 tons of pulp (approximately 12% of 1941 consumption) during the year 1942. Some 10,178 different items of printing papers are reduced to 2,549 items, nearly 75% and the number of grades is reduced from 82 to 52, or approximately 37%. Items as here referred to mean size, weight, color, finish or grain direction.

This does not in any sense mean that we are going to have to do without paper and forms for office use, but it does mean that we may have to substitute a different grade, weight, or color for one previously used. In this substitution, consideration should be given to using the next lighter weight paper which will help still further in the conservation program.

Another phase of the form supply business is ink. No shortage is anticipated in ink . . . except in colored inks. Most colored inks have metallic pigments. Such metals as chromium, aluminum, copper, brass, titanium, zinc, lead, and others are used extensively in the preparation of colored inks. Certain vehicles used in mixing inks, such as tung oil, alcohol and other solvents are being diverted to more urgent uses.

It is recommended that you contact your printer on anticipated printing jobs, ask his advice on paper weights, colors, grades, obtain from his standard sizes under the war program, discuss ink coloring with him. Anticipate your requirements longer periods in advance. Possibly corrections can be made on old forms instead of throwing them away. Don't forget to tell your printer when a form becomes obsolete. He is frequently holding the metal type or plate which can be melted or otherwise put into use again.

#### V. Office Supplies

This section covers a multitude of items of various kinds and it is difficult to generalize, however, the following comments on specific items with some suggestions toward substitution or conservation may prove helpful:

**Pencils**—No shortage anticipated, but are being supplied without erasers. Use pencil lengtheners thereby adding 25% to the life of the pencil.

**Erasers**—Not to be put on pencil. Available in limited supply. Do not waste them.

**Rubber Bands**—Very difficult to obtain—use carefully. Scotch tape 1/8" in width

is now on the market as a substitute and is being used extensively by banks.

**Scratch Pads**—Make from scrap paper, obsolete forms and one-sided used forms where records will permit. Maintain standard sizes 3 x 5—4 x 6—5 x 8 (filing sizes).

**Envelopes**—Where possible use more than one time, particularly within the company. Routing slips can frequently be used instead of envelopes. Window envelopes still obtainable. If necessary the cellophane or glassine window can be left open as some companies are already doing.

**Typewriter Ribbons**—Use each ribbon a little longer. Be satisfied with less "blackness" from ribbons. Only one grade of cotton now manufactured and no silk. Dyes for colored ribbons a little more difficult to obtain. Return ribbon spools and containers to a central place so they can be re-used.

**Carbon Paper**—Obtain one or two more copies from each sheet. The tissues and chemicals are being consumed too rapidly. Ditto carbon is difficult to obtain, but not advisable to use more than once except for certain types of work.

**Second Sheets**—Why not put copy of correspondence on back of letter being answered. It will save the second sheet, filing space and the clip or staple necessary to attach a separate copy.

**Clips, Staples and Pins**—Supply must be conserved as they are tin coated. Plier type paper fasteners that thread the paper are available. Don't let clips and pins find their way into the waste paper basket.

**Adding Machine Paper**—Scarce and should not be wasted. Supply available for general public use has been definitely curtailed. Possibly news print can be used if the supply of other paper becomes critical.

**Binders**—All forms should be made to fit standard size binders, punched with standard size holes, spaced with standard centers. Old binders not being used should be stored in a central place and made available to all departments.

**Paper Drinking Cups**—Available, but should not be wasted.

**Cotton Twine**—Probable shortage due to short supply of hemp cord.

**Stamp Pads**—Re-ink and use as long as possible.

**Cements and Glues**—Use, but do not waste—some ingredients are becoming scarce. Rubber cement is not being made now for civilian industrial use.

**Columnar Pads**—White will be scarce as will all kinds of bleached paper. Buff or canary should be available. The use of lighter weights is suggested both for the sake of conservation and economy.

The key word must be *Conservation*—avoid hoarding, buy reasonable quantities of supplies. The discussion of the problems mentioned herein is predicted on the orders and regulations as they existed last spring. The "needs and must nots" may change overnight. Therefore, it is imperative that each company keep on its toes so that each problem can be met effectively as soon as it arises.

## War Damage Insurance Rates to Utilities Lowered

**F**OLLOWING a request for a review of the war damage insurance rates by a joint subcommittee of the American Gas Association and Edison Electric Institute insurance committees, the War Damage Corporation lowered its rates on public utilities properties. Making certain modifications and interpretations of its Regulations "A," its Memorandum No. 6, dated July 25, provided reductions as follows:

"13. Utility Properties. The rates applicable to publicly or privately owned utilities as set forth in the Rate Schedule opposite Occupancy Code No. 14 do not provide any credits for fire resistive construction. Notwithstanding, utility properties classifiable under Construction Code No. 1 are eligible for the following rates, effective July 1, 1942:

#### Coinurance and Annual Rates

30%	80%	90%	100%
.20	.14	.13	.12

Notwithstanding the inclusion of transmission lines under Occupancy Code No. 14 overhead transmission lines are eligible for classification equivalent to Occupancy Code No. 8 and eligible for the rates applicable thereto. Booster stations and substations shall not, however, be included as a part of such overhead transmission lines

for the purpose of such rate classification, but such booster stations, substations and similar appurtenant property shall be classified only under Occupancy Code No. 14.

"14. Roads, Streets, Sidewalks, etc. Roads, streets, curbs and sidewalks, dikes, levees, dams, culverts, seawalls and similar properties are eligible for coverage under Occupancy Code No. 05 'structures not otherwise specifically provided for.'"

Provision has also been made to permit correction of policies by endorsement.

It is also understood that it is permissible to insure or exclude from insurance the value of gas in mains, gas holders, etc. It would seem necessary that the application for insurance on gas properties specifically state that gas is not insured—if it is not the intent to have it insured.

## Ulric Croy Dies

**U**LTRIC CROY, well-known in the export field as an expert on Far Eastern affairs, died suddenly on August 2 in his automobile near Peekskill, N. Y., from a heart attack. Mr. Croy was Far Eastern manager for Servel, Inc., of Evansville, Ind. He lived at Tuckahoe, N. Y.



# Residential SECTION

E. J. BOYER, *Chairman*  
B. A. SEIPLE, *Vice-Chairman*  
J. W. WEST, JR., *Secretary*

## Home Service in the South Makes Vital Contributions to War Effort

By JESSIE MCQUEEN

*Home Service Counsellor,  
American Gas Association*

FROM East to West and North to South we find home service departments throughout the gas industry bending every effort in support of the war program. As fourth in the series of regional home service articles (see A. G. A. MONTHLY, March, May, July-August, 1942), the outstanding work of the gas companies in Southern states is presented. While the activities of these companies follow in general the broad outline of programs adopted in other sections, there is sufficient originality in execution and detail to make a description of their activities of interest and value.

It is significant that the activities described herein, as in other sections of the country studied, are fully adapted to community activities of the Nutrition Committees, Civilian Defense, Red Cross and youth movements. The home service departments have become a pillar of support and in many cases the leaders of cooperative activities which are rallying our nation to full war production.

home service work as it related to general company policy and procedure. From this has developed an active home service section which is now going forward under its present chairman—Cephalie Lewis, home service director, Atlanta Gas Light Company.

Following are brief highlights of timely home service activities in a selected group of Southern companies:

**Louisiana Power and Light Company,  
New Orleans, Louisiana—Grace  
Larabee, Home Service Director**

For the past six years the home service department of the Louisiana Power and Light Company has carried on, with the authorization of the public school authorities, a program of demonstrations in the schools throughout the territory, on the use of modern equipment. With this background of confidence and acceptance, a Nutrition Contest set up by the utility company was most welcome in each community of the parish served by the company. The local home service girl presented the plan to the home economics instructors in the schools and the problem was set up on the basis of meal planning for a family of four. Each home economics student in the

eighth, ninth and tenth grades was asked to plan three adequate, low-cost meals for one day for this family. The entries were judged on nutritive value, economy, palatability and attractiveness, and four winners were selected from each school.

The judges were the home economics teachers from other schools. For instance the Hammond teacher judged the Ponchatoula group and the Ponchatoula teacher judged in Amite. In this way all of the teachers had an opportunity to visit each other and, of course, this added interest and enthusiasm and brought the whole parish together in the activity.

The four winners in each school then participated in a meal preparation contest with each girl cooking a meal she had planned. A winner chosen from each school was the guest of the Louisiana Power and Light Company on a marketing tour in New Orleans. They were shown through the well-known French markets in New Orleans and were given a lecture on the selection of vegetables, meat and fish.



*Nutrition center on the sales floor of the Roanoke Gas Company with Gladys Vandrenuil, home service director, in charge*

The Southern Gas Association has given generous support to home service work and has been a major influence in advancing a progressive program in the South. For a number of years this organization has devoted one of the general sessions of its annual convention to a presentation of

*Atlanta's famous mobile canteen trailer or "Soup Kitchen"*



*Winners of the Meal Planning Contest sponsored by the Louisiana Power and Light Co. at a luncheon in one of the garden courts in the Vieux Carre*

Luncheon was enjoyed in one of the court yards of the Vieux Carre. The contest was counted as a project and the students were graded on the work submitted. On return to the school each student gave a talk covering the trip to the entire student body.



**Atlanta Gas Light Company, Atlanta, Georgia—Cephale Lewis, Home Service Director**

In common with almost every other home service department, recent activities of this company have concentrated on Civilian Defense and Nutrition. Believing that there would be a shortage of equipment, the department made plans for emergency feeding by building a canteen trailer or "Soup Kitchen," which has attracted wide attention and was described in the May issue of the A. G. A. MONTHLY. To meet requirements of Food and Housing under Civilian Defense, employees completed a 20-hour course in First Aid, and an 8-hour course of general defense, including 3 hours of gas defense. This was followed with a 20-hour Nutrition and 10-hour Canteen Aide Course under Red Cross—all held after office hours on employees' time. The canteen crew consists of a chairman, 3 co-chairmen and seven teams with a captain and three members each.

in government-owned housing projects. The negro tenants all have small gardens and the company's colored home economist gives canning instructions to these people.

The home service staff acts as consultants, along with other home economists, in the nutrition booths established in grocery stores by the County Nutrition Committee. Forums are held once a month for this group of women to bring their



*A negro canning class in Atlanta gets first-hand instruction from the gas company's home service department*

problems to experienced trained people. The literature distributed by these women in grocery stores is kept in the utility company's home service office and contact is thus maintained with the captain of these groups. The company furnishes some of the literature used by them, and also sends material to a Consumers' Council Center.

**San Antonio Public Service Company, San Antonio, Texas—Nell Read, Home Service Director**

"All of our efforts this year," says Miss Read, "have been toward complete cooperation with the war effort." All home economists in the department have qualified as Red Cross nutrition and canteen instructors.

The San Antonio Public Service Company has available a particularly attractive home service headquarters called the Spanish Patio. All the color schemes and displays have an authentic decorative touch and the seating space accommodates 200 people. A group of rooms to show equipment in attractive settings, test kitchens, an office and lobby floor complete the space. The Patio has been the headquarters for a variety of community groups. Approximately two hundred women's organizations meet once or twice a year for special instruction and this work has been supplemented by an active program for young people.

The junior and senior high school cooking classes of former years were turned into Junior Nutrition classes this year in



*"Grow 'em and can 'em" is the theme of this garden window display of the San Antonio Public Service Company*

cooperation with the Red Cross. A 12-hour course in nutrition culminated with a whole wheat bread-baking contest instead of the usual cake-baking contest. Prizes were war savings stamps instead of appliances. An interesting part of

the school was that all games played by the children were based on the National Nutrition Standard. The games were developed in this way so that even in their play periods, the children learned nutrition.

Nutrition charts called "Keep 'em Healthy" have been used as the basic theme of every activity. Home calls have continued as a means of taking the story of nutrition to all San Antonio home makers and Miss Read reports excellent response. Much interest is evidenced in packed lunches for defense workers and also in the need for sugar alternate recipes. This resulted in two groups of recipes entitled "Lunch Box Magic" and "Sugarless Sweets." Methods of canning foods from Victory Gardens have been much in demand so a series of window displays in San Antonio have been planned and the first featured the theme "Preserve Today's Victory Gar-

*Ada Williams, of the North Carolina Gas Co., Raleigh, giving a lively demonstration on the use and care of modern gas equipment*

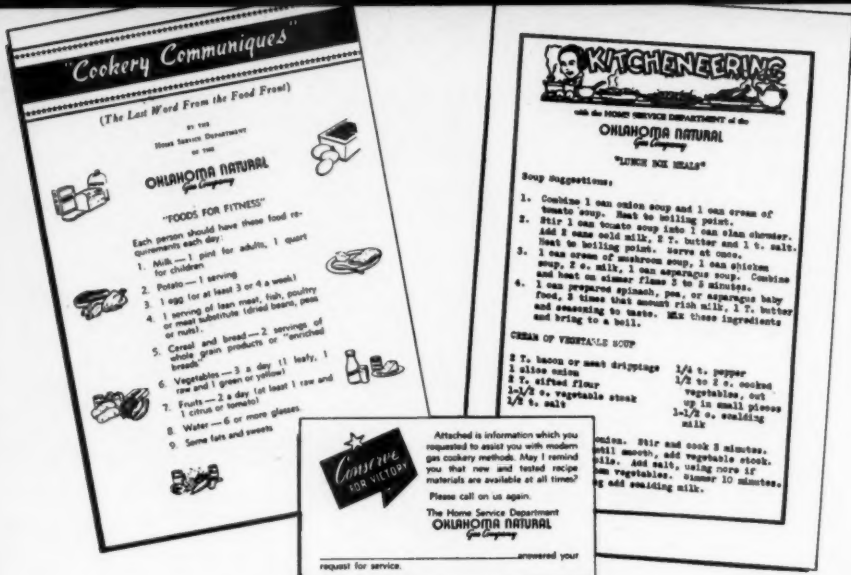
An attractive Nutrition Booth has been set up on the company's sales floor and much valuable food and Home Volunteer material has been distributed. The home service department designed a very attractive red, white and blue folder with a Food Buying Chart and Cooking Guide by the State Health Department on the inside of the folder and Food Selection Score Card prepared by the Georgia Nutrition Council on the back. They have also distributed mimeographed sheets on cheaper cuts of meat recipes, sugar substitute recipes, roasting and broiling charts, recipes for meat substitutes, etc. Canning information has been added to this material this summer.

With emphasis on canning information, the home service staff took a 3-day refresher course from the State Food Preservation Specialist which included canning with sugar substitutes, brining, drying and sulphuring. Some research work has been done on drying of vegetables and fruits in the CP range oven.

Victory Garden Contests have been held



*A teaser newspaper ad calls attention to the Oklahoma Natural's annual cooking school*



"Cookery Communiques" and "Kitcheneering" pamphlets flash news of the nutrition front to consumers of the Oklahoma Natural Gas Company. Inset below is an enclosure card which accompanies all cooking information sent to customers and has served to personalize the service

den for Tomorrow's Food Supply." During the two weeks of the display, canning demonstrations were conducted in the Patio kitchen.

**Raleigh Gas Company, Raleigh, North Carolina—Mrs. Virginia S. Hall, Home Service Director**

As a member of the State Nutrition Committee, this home service department has directed its current program to events of the day. As an example, one window display reads "Victuals, Vitamins and Victory."

Home calls continue to be a major activity and the influx of many new people in the community has made it a big task to call on the newcomers. Modern gas cookery has been a new feature to many of these new residents and prompt assistance and help by the home service department has been appreciated.

"Everyday Kitchen Helps" is the subject of a popular distribution piece on the home calls.

**New Orleans Public Service Inc., New Orleans, Louisiana—Joie Kammer, Home Service Director**

Cooperative work in connection with the National Nutrition Program has been a major activity in the home service department of this company. A large staff is qualified to carry on this nutrition work reaching fourteen different groups of community organizations. Some of these groups are Red Cross, AWVS, PTA, Girl Scouts and also the wives of army and navy men recently transferred to New Orleans. The Martha Adams Radio cooking school before a listening audience in the home service auditorium, has entertained thousands of women in New Orleans.

The negro educational program has been productive of good results. Appliance classes have been conducted at three large

negro universities. Assistance was given in cooperation with Homemakers Week at Dillard University. Another big program of work is with the negro and white federal housing occupants. Beside going into each home and demonstrating the use of modern kitchen equipment, groups of the tenants have been organized into classes in nutrition and appliance use and care.

Dealer cooperation is extended through hostess work in new real estate developments and cooking schools are conducted in the stores of dealers to give instruction in the care and use of equipment. The New Orleans company has also conducted an effective window display program—much of it devoted to cooperation in the nutrition program.

**West Texas Gas Company, Lubbock, Texas—Mary Alice Crosson, Home Service Director**

Miss Crosson writes: "The home service department of the West Texas Gas Company is a very busy place." As a one member department this is easy to understand, with classes taught afternoons and evenings both by the home service director and by other qualified instructors using the facilities of the home service auditorium. Miss Crosson is nutrition chairman for the local Red Cross in Lubbock, food consultant for the Girl Scout organization and a member of the Girl Scout council—and through a group of properties in West Texas carries on a similar program of home service work.

**Roanoke Gas Company, Roanoke, Virginia—Gladys Vaudreuil, Home Service Director**

"Good Morning, Neighbor," is the title of a radio program conducted by Miss Vaudreuil to put across, as she expresses it, "cooking with gas, nutrition stories, information from government agencies, local

items of human interest and other consumer information." It is very informal and has become popular in Roanoke. It is a twenty-five minute radio program, five days a week.

An interesting contact with the sugar rationing board in Roanoke has been in the form of a special notice given out to every person applying to the board for extra sugar and it reads "take this slip to the home service department of the Roanoke Gas Company for free canning bulletins and sugarless recipes."

In Roanoke Miss Vaudreuil has carried on an active program as professional sponsor of the Roanoke County and City Nutrition Committee. From this has come about lectures and demonstrations not only for this group but for Civilian Defense, for classes for working women in connection with the YMCA and the Welfare Department of Roanoke.

**United Gas Corporation, Houston, Texas—Alice Livermore, Home Service Director**

In this company homemakers have been encouraged to give small kitchen parties with the assistance of the home service department. This allows small groups to have demonstration instruction and provides an effective good will effort for the company. Seventy-four of these parties were given in 1941.

In order to spread the story of wise buying the home service advisor spent a week in each of Houston's food stores. A modern gas range was connected near the meat counter and low cost cuts of meat were actually prepared. Low price recipes were given out and a chart was on display which provided a meat-buying guide on one side and a baking chart on the reverse.

On June first, an extensive radio program was launched in the United Gas Corporation, with a three-times-a-week pro-



René Luck, of the Atlanta home service department, with vegetables dried in a CP range oven. Deep dishes contain vegetables dried, soaked and ready for cooking; shallow saucers contain some of the same food that has been dried—in this case apples, corn and carrots

gram from the model kitchen on the third floor of the company building. Twice each week a nutrition class meets in the auditorium and the radio program is tied in so that the women in attendance can stay over for the broadcast with one member of the group adding color and interest to the program with brief remarks. This radio program was set up as a war measure to counteract the rubber shortage which was affecting attendance at the community cooking schools which have been carried on for a number of years over a wide territory—sponsored by local churches and clubs.

The Servel Home Volunteer program is under way in all of the offices and it is meeting with a good response from customers.

A negro maids' household training course was also organized with over two hundred maids registered for classes meeting once a week for six weeks.

**Lone Star Gas Company, Dallas, Texas—Albertine Berry, Home Service Director**

Seventy thousand copies of the V booklet prepared by the home service department to give instruction to customers on up-to-date nutrition and food information have been distributed throughout the state by the Lone Star Gas Company. The cooking schools were given the name of "Food for Freedom Parades" and the stage backgrounds were made up of charts, large and colored, outlining the yardstick of nutrition with which each food demonstrated was compared.

The Modern Homemaking recipes have been a colorful and popular feature in the Lone Star System for a number of years. Amusing sketches by Gertrude Payne, assistant in the department, have kept up the interest in this type of material and they have been in demand not only by the homemakers of the community, but by home economists in classes in the schools, where teachers have used these menus as checks against regular food instruction.

**Oklahoma Natural Gas Company, Tulsa, Okla.—Mildred Clark, Home Service Director**

The home service department in this company was the first to be called on to present the Red Cross standard nutrition course, preliminary to the organization of the canteen course in several of the larger communities throughout Oklahoma. From that grew courses in a majority of the small or large communities.

Under the guise of a catchy title—"Victual Vitals"—Oklahoma homemakers in the 120 communities and towns served by the company, received first-hand simple food and nutrition facts through the weekly Summer Menu Planning Program. This program in 1941 was the fifth carried on in cooperation with local grocers, now totaling some thousand outlets for the weekly distribution of 65,000 menu-recipe sheets to homemakers. This, too, has served as a medium through which grocers frequently call on home service representatives for selling helps in advertising, customer in-



*A class in elementary cooking held by the Roanoke Gas Company in cooperation with the Y.W.C.A. "Stay at Home Camp" for underprivileged children. Katherine Van Vliet, assistant home economist, may be seen at the left front table*

formation, and food talks and demonstrations before retail grocers' groups.

"Cookery Communiques" was the theme of the company's annual cooking school program presented in 70 communities. Despite frozen appliance markets and the usual plan to present the new lines in gas appliance equipment for the home, it was felt that this year's program was more important than ever before. So, armed with pinafors designed in patriotic motif colors home service girls opened their two-day stands with a plea—"let's go to work on Mrs. America's most important job in the all out war effort."

Flashing ideas ("Communiques") of what's news from the Nutrition Front, a brief course in nutrition facts was carefully woven into the two-day program in which practical inexpensive food preparation was featured. Methods of using food substitutions and alternatives and ways of altering favored recipes were also included. Nutrition sheets which were brief nutrition courses, and recipe sheets featuring inexpensive foods were given to all in attendance. As a feature of the schools those in attendance turned in their favorite wartime recipes and from those submitted the best were chosen, printed and distributed in each community as "Cookery Communiques" from their neighbors. Local newspapers gave favorable publicity to this method of neighborly help in the nutrition program. The home service department has capitalized further on this theme—"Cookery Communiques"—by using it as the subject of a 15 weeks' radio program in Tulsa.

Future homemakers are receiving training in nutrition information both in the Oklahoma company's model kitchens and in school home economics departments. As a phase of the children's program, it was decided to repeat the annual Baking Contest program for members of the Camp Fire Girls, Girl Scout or Girl Reserve organizations. This is a program designed to build children's interest in home cooking and the winners in these contests have been recipients of a free term at summer camps. Four

such awards are made in each of nine communities. This year's program emphasized home-baking principles necessary in the war effort—and featured foods using less expensive but more nutritious ingredients. Victory cakes and cookies that pack, made with sugar substitutes, were also included in some of the contests.

Early in the nutrition program the home service department's weekly news columns featured Foods for Fitness in relation to everyday meal planning and preparation. The first tool in the nutrition program—the listing of the daily food requirements, was featured on 4" x 5" cards and made available and distributed by request to schools, P.T.A.'s, Men's Civic Clubs (these were used as the basis for request talks and checks on typical men's civic club luncheon menus) and by restaurant owners who used them on menus and for customer distribution.

In concluding her report, Miss Clark wrote: "Our goal has been, and is, to 'keep 'em cookin''—to make better and stronger Americans for the national effort."

## Production of Space Heaters Curtailed

THE War Production Board on Aug. 5 issued Limitation Order L-173, cutting off further production of domestic space heaters using fuel oil or gas except to fill orders for the Army, Navy, Coast Guard, Maritime Commission or War Shipping Administration. Included in the order are circulating heaters, radiant heaters, direct-fired gas unit heaters, and floor and wall furnaces.

The order permits the production of replacement parts so that units now in operation can be kept serviceable.

The Plumbing and Heating Branch estimates that manufacturers and dealers have stocks of 200,000 oil heaters and 300,000 gas heaters on hand.



## AFTER V-DAY WHAT?

(Continued from page 294)

posed limitation order on manufactured gas is the best evidence that every capacity will be strained to carry the load that is coming, and at the end of the war that load is going to drop.

What is to be done then? Where will that expanded capacity be consumed, at least in part? The rate of industrial production cannot continue. The effort will then be to convert back to peacetime production. The government may try to continue war production over some period, but there will be the same strain in getting into peacetime production that there is now in getting into war production, and the urgency will not be so apparent. Then there will be the problem of survival of some of these war industries.

### Future Competition To Be Keen

Other competitive industries, either directly in service, such as electric, or those with which you compete for the consumer's dollar, will also have the problem of converting their expanded capacities and the competition will be tough.

Against this picture of future need of action, sales departments are now being largely disbanded. True, key men and those who are necessary as an organization nucleus are being retained, but it becomes harder and harder to hold these men unless they feel they are in a very essential work.

So we have a prospect of expanded capacity, keen competition, no sales organization, neglected customer relations, disorganization in industry, many businesses starting all over again.

It is probable that never before have you had such a clean page as will be turned the day this war is over, on which to write the history of what you do—and to lose the opportunity for planning and knowing exactly, as near as imagination and good judgment can determine, what to do on that day, which will determine the speed and efficiency of that effort, would certainly be the most unfortunate thing the industry could experience.

There will be a vast accumulation of deferred purchasing which everybody is going after. Of course, the amount is going to be dependent upon the duration of the war, curtailment of

non-defense production, and the accumulated savings of the public. Probably the greatest single factor in counteracting any tendency for a serious depression following this war will depend on the extent to which financial resources are available to satisfy deferred purchasing.

### Effect of Regulation

We have in the economic picture another change to consider—the effect of the regulation of the Federal Power Commission on rates. It seems to me that the rates now being considered for house heating, for instance, are going to be much lower than anything the public was previously offered. That will change the economic picture.

These anticipated conditions raise the questions: What are we going to sell? How are we going to sell it? What preparations are necessary to make that effort and make it successful? How soon after the end of the war are we going into action with a well planned, well prepared, hard hitting organization?

In looking to dealer outlets to meet our sales requirements, my own belief is that dealer organizations, as we want them to measure up to the intensity of sales effort necessary at the end of the war, are not going to be in existence. It takes more than just the head of the firm or somebody who has been going around servicing, keeping in existence on a servicing basis, to train and develop and organize the kind of sales organization that we will need.

The gas industry is going to have to do one of two things: Either step in and do that selling effort direct while the dealers organize to take over the selling load, if that is our policy, or else we are going to have to do a big job of helping him to organize to take over from the beginning. Maybe it will be a combination of the two. But, to my way of thinking, and we have talked with a great many dealers, I rather despair of finding very many of them available, unless this war ends much quicker than many of us think. This means that the utility must start the selling program itself with its own sales organization.

Now, what can we do about it? First, we can designate some one to think, dream, plan, and prognosticate,

on these problems. This is what other industries are doing. They are making their plans to do planning.

The electric industry is coming out with a range which is to be much more efficient than anything it ever had. What are we going to sell in competition with it, and how are we going to get it? The manufacturers cannot do much about having it ready at the time we want it if we haven't helped them plan that program. We cannot wait to make our specifications on the ranges, or any other equipment we think is going to be necessary for our sales activity in this post war period, until the war is over.

The industry is doing a magnificent job in war production, as a direct result of years of planning and research fostered by the Association. It goes back to the close of the last war. It is now paying big dividends. Planning now for post war plans promises just as great, or even greater returns. The time is short to do it. All of you are now preoccupied with the problem of winning the war, making it difficult to find the time to plan for the future. But someone within your organization should be appointed and made responsible—given the authority and appropriation for post war planning.

### Appliance Servicing

A RULING of the New York Public Service Commission in the case of the New York & Richmond Gas Co. states that a gas company is under no duty, statutory or otherwise, to inspect, repair or maintain customers' appliances, which repair and servicing is a competitive field.

There is no continuing obligation on the part of a gas corporation to inspect the equipment and appliances on a customer's premises.

—PUR *Fortnightly*, August 13, 1942.

### Coke Study Available

A RECENT report of the Bureau of Mines, U. S. Department of the Interior, presents statistical data on the distribution of by-product and beehive coke produced in the United States during 1941 and constitutes the sixth compilation of figures gathered by the Bureau on this subject. This material is available upon request to the Bureau in Washington, D. C.

According to the report, unprecedented activity in the iron and steel industry during 1941 resulted in the greatest output of coke in the history of the country.





# Industrial & Commercial Gas SECTION

GEORGE F. B. OWENS, *Chairman*  
B. H. GARDNER, *Vice-Chairman*  
EUGENE D. MILENER, *Secretary*

## Gas Kitchens Feed A Production Army At Douglas Aircraft\*

A MARVEL of mechanism is the all-gas air conditioned kitchen with its great ranges and ovens, dishwashers, pressure cookers, and utensils, all scrubbed to a spotless gleam, at the Long Beach, Calif., plant of the Douglas Aircraft Co., Inc. The equipment is in operation 24 hours a day, to serve not only lunches to first-shift personnel, but breakfast and dinner to those of Douglas' production army on other shifts.

Back of the gleaming cafeteria is a story of planning, organization and epicurean skill. Well in advance of the building's final completion the finest equipment available was ordered for the kitchens, storage and serving facilities. Gas, with its history of years of outstanding, dependable service in the food service field, was selected.

### Battery of Gas Ranges

The 30-foot battery of gas ranges daily handles a tremendous quantity and variety of food simultaneously. Eight ovens on these ranges are used for baked foods. Such things as soups are made in great stainless steel kettles, one of 100-gallon capacity, and two of 50-gallons. For vegetables there are two pressure cookers so huge that each holds three sacks of potatoes at once.

Foodstuffs are purchased from local vendors in tremendous quantities—bottled milk daily by the truckload, ice cream by the hundreds of gallons and meat in whole or half carcasses. Perishables are stored in three individual refrigerated rooms, for

meats, vegetables and dairy products, separated to prevent any possible contamination. Additional pantry boxes protect finished foods. At the counters beverages and foods are maintained at exact temperatures by steam tables and refrigeration.

A complete bake shop has been set up which turns out all the bread, rolls, pie and pastry that this modern industrial cafeteria requires. Six modern gas-fired ovens are used, each with accurate controls. To speed the baking process, dough is placed in a large proof box where steam acts on the yeast to bring about the necessary raising quickly and efficiently. Doughnut-making also is on a production basis, for a speedy gas-fired machine busily turns out the golden-browns at the rate of six dozen batches every three minutes.

Dishwashing, too, is done healthfully and scientifically here by machines. A moving conveyor belt carries 12,000 dishes per hour through this machine, where they are washed, sterilized and rinsed at a temper-

ature of 210 degrees. Here, again, gas is contributing to the efficiency of Douglas Aircraft's production army. Hot water, at temperatures recommended by U. S. Public Health officials in their current utensil-sterilization campaign in public eating and drinking places, protects the workers' health.

The approximately 100 trained men and women who staff the kitchen and cafeteria 24 hours a day each carry a health card and undergo a stringent health examination every six months. Large tiled shower rooms supply hot water for cleansing. Every 30 days all equipment and facilities are checked by state inspectors.

The food prepared in this streamlined food service unit is assuming record proportions as Douglas Aircraft's Long Beach branch with its new additions is one of the largest plants west of the Mississippi.

*A portion of the gas-fired ovens in which volume production of bread, rolls, pies and pastries are baked each day. Six gas-fired ovens with automatic controls are needed to fill the requirements of the thousands of workers who are turning out Uncle Sam's flying equipment. Even the doughnut-making is done by gas—in a separate machine. Quantities of food in record proportions and of high quality are needed to keep the plant workers in top physical condition*



\* This story is based on an article in *Western Hotel Reporter* which has also kindly loaned the cuts to the A. G. A. MONTHLY.

*Employees selecting their lunch at the cafeteria counters at the Long Beach plant of the Douglas Aircraft Company. The other picture shows a portion of the production army having lunch in the commissary*





Keeping 'em rolling is a full-time job for the railroads. Reports received indicate that railroad shops throughout the country are depending heavily on gas. Portland, Ore., has just put new equipment in the Union Pacific shops.

Gas engines gin for victory—big year ahead. A lot of this year's cotton crop, ginned with gas power, will go into uniforms, tents and other war uses.

Gas drafted by St. Louis industry. Melting and annealing of aluminum castings for airplanes . . . large airplane bombs . . . land mines . . . tank parts . . . ammunition . . . fuses . . . machine tools. One small arms plant—largest of its kind in the world—uses gas enough to supply 70,000 homes. And it hasn't reached its peak yet!

Another front for gas . . . a new naval bakery on the West Coast is ready to bake 9,000 loaves of bread, 5,600 pies and 40,000 biscuits per day. No hungry gobs there.

Industrial gas furnaces for doing the job were all ready when steel shell cases were put in production.

The U. S. Navy's training schools for bakers require that students have a knowledge of correct operation of ovens and other bakery equipment. Many are being trained on gas ovens.

U. S. Public Health Service recommends plenty of hot water for industrial washrooms—and for washing and rinsing dishes in industrial cafeterias. How about sanitation facilities for industrial workers in your area? Good health is necessary for top war effort.

Precise heat treating with gas of carbon steel parts is helping many machine tool factories meet critical requirements. Saves scarce materials, too.

The assembly line doesn't use much gas—but Oh Boy!, there would be no assembly line if gas stopped flowing where the parts are made.

Heavy-duty gas stove and oven plants are busy furnishing equipment for the war effort. This is one end of the cooking and baking business that will keep growing for the duration—and after.

Have you read the article in July 30 Gas Age, by Equitable Gas Company's John Brosius? It's a fine exposé of what a valuable cog the industrial gas engineer can be in war production.

The flurry over army and navy heat treating specifications excluding gas seems to have died down. No basis for those fears when the cases were run down. The direct purchaser is the one that must be kept lined up.

## War Production Theme of Metal Show

PREVIEWS of the National Metal Exposition and Congress, to be held in Cleveland's Public Auditorium, October 12-16, indicate that the gas industry will be widely represented, individual manufacturers having already contracted for several thousand feet of space at this outstanding metals event. The A. G. A. Combined Exhibit—for the past sixteen years sponsored by the Industrial and Commercial Gas Section of the American Gas Association at the Metal Show—has given gas a standing and prestige which will be helpful to this year's individual exhibits.

A feature of the Congress will be a technical paper entitled "Radical Advances in High-Speed Open Heat Treatment with Gas-Air Combustion" presented by Frederic O. Hess, president, The Selas Company, Philadelphia, Pa. This paper will be given during the session devoted to specialized metal heating methods applicable to the war production program. It is being presented under the auspices of the A. G. A. Metal Treating and Melting Committee, of which Mr. Hess has been a member for several years.

The National Metal Congress and Exposition is always attended by a large number of industrial gas men and manufacturers' representatives and this year will be no exception. Industrial gas men find the Congress and Exposition an excellent op-

portunity to make close contacts with customers in their territories who are in attendance.

The East Ohio Gas Company is cooperating with Exposition officials and the American Gas Association in promoting the Metal Show. The new ideas, new developments, and new equipment which will be discussed, shown, and demonstrated, are particularly significant at this time of need for more efficient production for war. Keep the date in mind—October 12-16.

## Students Discuss Gas Furnace

AT the student meeting during the recent convention of the American Chemical Society, C. G. Giannotta presented a paper for Pratt Institute, Brooklyn, New York, entitled "An Experimental Gas Furnace." Representatives of other technical colleges also presented papers on various subjects at this meeting. In developing data for this paper, Mr. Giannotta was assisted by Harry Krohla.

The especially constructed gas furnace described in the paper is divided into two sections: (1) heat transfer almost exclusively by radiation, and (2) heat transfer almost completely by convection.

## INDUSTRIAL AND COMMERCIAL GAS ADVERTISING FOR SEPTEMBER

The National Advertising Committee of the Industrial and Commercial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the trade and business magazines listed below during the month of September. These advertisements, which will appear in 16 publications reaching a total audience of 288,587, are prepared in cooperation with the Committee on National Advertising as a part of the Association's national advertising campaign.

### General Manufacturing

BUSINESS WEEK (Sept. 5—7½ page)—If we work fast enough . . . we shall win . . . and modern GAS equipment is helping to speed our war effort!

### Metals Industry

STEEL (Sept. 21)—Maybe our engineers can help yours! Part of our wartime job today is to help you use GAS efficiently and economically.

INDUSTRIAL HEATING  
METAL PROGRESS  
HEAT TREATING & FORGING

### Baking Field

BAKERS WEEKLY (Sept. 21)—A day in the army . . . with GAS.

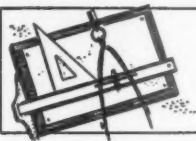
### Ceramic Industry

CERAMIC INDUSTRY—A glass life raft? . . . That's only one of the many new products in Ceramics . . . and GAS is helping in the swing!

### Restaurant Field

AMERICAN RESTAURANT—Meals by the Millions! Gas cooking does a big job for our armed forces.

CHAIN STORE AGE (Fountain and Restaurant Section)—By all means . . . keep 'em cooking! Let our GAS engineer help you get the most from your present GAS equipment.



## A Method for the Determination of the Quantity of Suspended Material in Gas

THE determination of the quantity of material carried in suspension in any gaseous atmosphere, as either solid or liquid particles, is an exceedingly delicate procedure. The reason is the necessarily minute size of the particles involved (of the order of magnitude of .00001 inch or less in diameter) and consequently, in most instances, the minute total quantity of material present. This makes the development of a universally applicable procedure almost impossible. As a result, there are a number of procedures and different instruments described in the literature, which are specialized in their application to the specific problems at hand. A partial bibliography of this literature is appended, and a description of the methods will not be given here.

In this paper, it is desired to describe a device and procedure which has been particularly useful in aiding in the solution of some problems relating to the manufacture and utilization of gas in Baltimore. It is again a specialized procedure, designed

Presented at A. G. A. Joint Production and Chemical Conference, New York, N. Y., May 25-26, 1942.

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particularly for the determination of suspended gum in gas in concentrations of less than one gram per million cubic feet. The procedure is not new, but is a result of appropriate adaptations and combinations of older methods. Some examples of the utility of the procedure will also be given.

### Description of Apparatus

The equipment used for the determination of suspended gum particles in gas, which has been in use by this laboratory for several years, may be seen in the photograph, Figure 1, and the diagrammatic sketch, Figure 2. The procedure uses an impingement device modified to suit the experimental conditions. Gas enters the impinger and escapes as a jet through a small orifice. A thin microscope cover slip is located about 1.5 mm. above the orifice, perpendicular to its axis. The jet of gas impinges on this glass plate, and suspended particles adhere to the plate. Their quan-

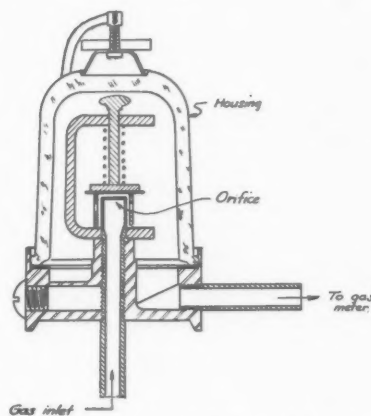


Fig. 2. Cross-sectional diagram of impingement apparatus

tity may be determined by weighing. This device is enclosed in a housing from which the gas escapes to a wet test meter with which its volume is determined, and thence to a purge burner. In the apparatus shown in the photograph, the impinger is constructed from an automobile gasoline filter housing. There have been several other models of the impinger used, one of which was successfully employed to show variations in the deposit over a period of twenty-four hours, by rotating the cover slip over the orifice.

The orifice size used in the impinger is No. 72 M.T.D., drilled in an aluminum plate .002 inches thick. This orifice in the laboratory permits at a pressure of 5 inches water column, a gas rate of about 2 cubic feet per hour, producing a linear velocity in the jet of approximately 150 feet per second.

The quantity of collected material is determined by weighing with a microbalance. The weight of the clean cover slip is determined prior to its insertion in the impinger, then after a given volume of gas has been passed, its weight is again found. The quantity of suspended matter is expressed as the weight of material in grams per million cubic feet of gas. In these tests, the volume of gas measured by the meter was not corrected to standard conditions, since the precision of other measurements does not warrant it. The duration of the test and volume of gas sample required is

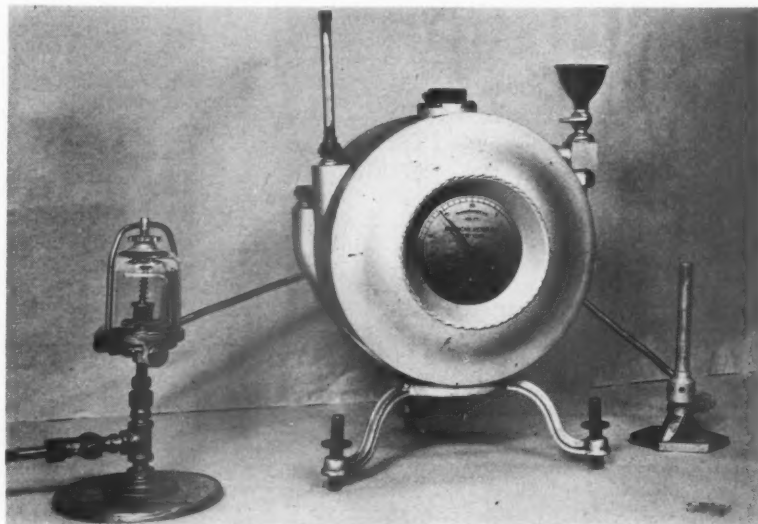


Fig. 1. Equipment used for the determination of suspended gum particles in gas

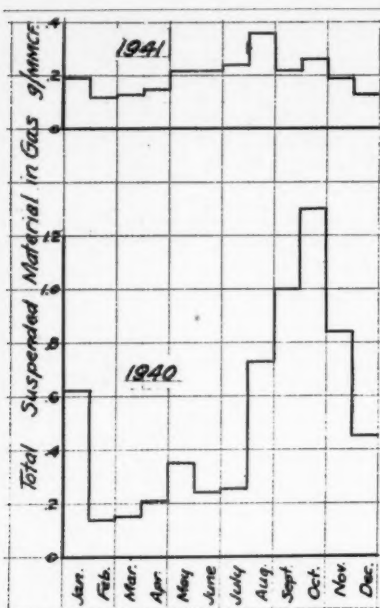


Fig. 3. Seasonal variation of concentration of total suspended material in city gas

governed by the total quantity of material present and the purpose for which the test is made. The determination represents the average mass of suspended material carried by the gas during that period. In most cases, the quantity carried by Baltimore city gas is not sufficient to be determined with a gas sample less than about 50 cubic feet. Under special conditions, the test may be run for a shorter time or for a longer period.

#### Examples of Application of the Procedure to Manufactured Gas Problems

1. *Routine determination of suspended matter in city gas.* In our laboratories, the determination of the suspended matter in city gas has been a routine procedure for several years. The tests are continuous, and the weighings are made three times weekly, such that gas samples of 100 to 150 cubic feet of gas are used. The monthly averages of the concentration of suspended matter thus found have shown a seasonal variation. This is illustrated in the graphs of Figure 3. It is observed that the suspended matter occurs in smaller concentrations during the late winter and early spring, while during the early fall months, the suspended matter increases. These fluctuations are attributable to several factors, aside from seasonal temperature changes, and this procedure has proved useful in investigating them. The total concentration of suspended matter throughout the year averages only a few tenths of a gram per million cubic feet of gas.

2. *Composition of suspended matter in city gas.* The appearance of the deposit obtained on the test slides suggests that

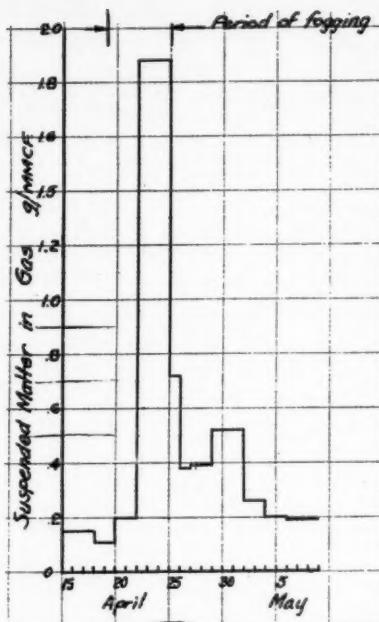


Fig. 4. Detection of oil fog in city gas 1.5 mi. from plant

the suspended material exists in different forms in the gas. A small centrally located deposit of solid material has been demonstrated to be nitrogenous gum, and is related to the quantity of nitric oxide in the gas entering the holders at the manufacturing plant.

Another portion of the deposit has been shown to exist in the gas as oil droplets, made up partially of an oil of medium

volatility and a residue of oil of very low volatility or possibly liquid-phase gum. The oily material, in general, forms the larger portion of the total suspended material. It appears probable that the origin of these droplets in the gas is the oil scrubber at the plant.

3. *Detection of oil fog introduced into the gas by hot foggers.* In one experiment it was found that oil purposely introduced into the gas at the plant was promptly detectable in the suspended matter tests. When the foggers were again shut down, this fog disappeared. This is illustrated in Figure 4. Although 3 to 4 gallons of oil per million cubic feet of gas were being introduced, the graph shows that only a very small portion of it reached an appliance in a building 1.5 miles distant. No other tests were carried out, but because of the small quantities detectable by this procedure, it is evident that the method would prove useful in detecting the extent of dispersal of oil fog in a distribution system.

4. *The effect of the addition of steam to manufactured gas on the concentration of suspended matter.* It has been suggested at times that the introduction of steam into gas within holders is an aid in reducing the quantity of suspended gum in the gas. Usually, the purpose is to reduce the number of pilot complaints caused by the presence of the gum, and the criterion of the success of the remedy is the reduction in complaints effected. The impingement test has proved itself a more rapid and decisive test of the effectiveness of control measures than is represented by observation of pilot complaints. Figure 5, illustrates the effect on suspended matter of the introduction of steam to manufactured gas at the inlet of the station holders. Immediately after the

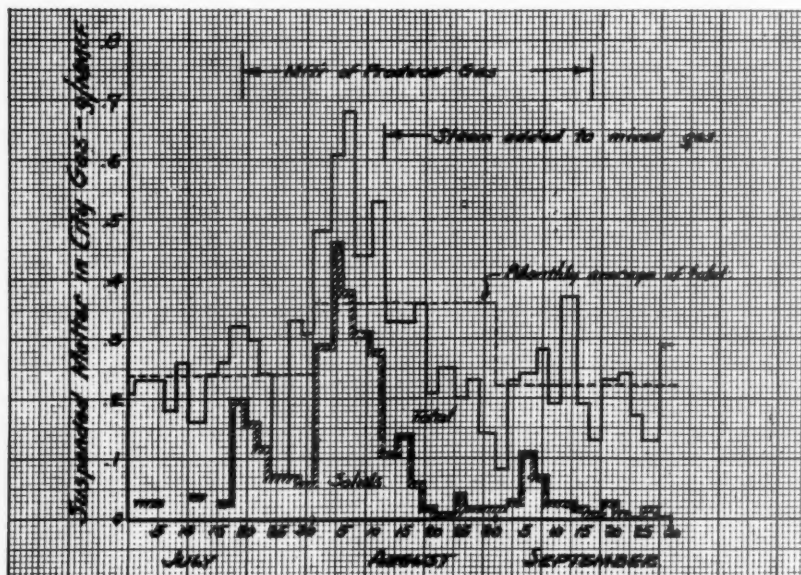


Fig. 5. Concentration of suspended matter in city gas—Fall of 1941



addition of steam was begun a decrease in the solid material, or nitrogenous gum, was observed. However, the steaming had little observable effect on the concentration of oily material present. Thus, the judgments concerning the value of the procedure are independent of any assumptions about the effect of the suspended material on pilot complaints, or any lag exhibited by the complaints in responding to the remedy.

5. *Sources of the various constituents of suspended material.* This method has proved fruitful in correlating the variations in quantity of the constituents of suspended material with changes in plant operations. Figure 5 also illustrates the effect of an increase in nitric oxide content of the gas on the quantity of suspended solid material found therein. The increase in suspended solids beginning about July 18 accompanied an increase in NO content of the gas, which, upon this occasion, was caused by the introduction of blast products of water gas machines into the manufactured gas. The reduction in concentration of suspended solids brought about by the introduction of steam permitted the continuation of the use of these blast products throughout the period illustrated without additional harmful effects.

The origin of the suspended oil droplets in the gas has been attributed to the oil scrubber. This conclusion is based on the evidence that during some periods when the scrubbing oil rate was reduced or the scrubber shut down, a marked decrease in the concentration of these oil droplets was observed. Other variations in the quantity of suspended oil droplets have been attributed to changes in temperature of the scrubbing oil, and this may account, at least partially, for the seasonal variations in concentration of suspended matter mentioned before.

6. *Investigations on the rate of failure of pilot controls.* The impingement device has proved useful in studies of the rate of failure of pilot controls, and has permitted a choice to be made, upon occasion, between various types of controls to be used on gas appliances. The comparative ease of stoppage of needle valves, stopcocks, etc., is easily determined under widely varied, yet well-controlled conditions. Figure 6 illustrates curves representing the decrease in gas flow through Rutz lighter needle valves when operating on gas containing different quantities of suspended matter. The decrease in gas rate is found to be a logarithmic function of the time of operation, and of the quantity of suspended gum carried by the gas.

7. *Determination of efficiency of filters.* By determining the quantity of suspended material which is removed by passing gas through a filter, the suitability of such filters for use in protecting pilots against stoppage may be quickly and decisively shown. Changes in the effectiveness of filters with age may also be investigated. This method of test is more informative in its results than is the usual procedure of

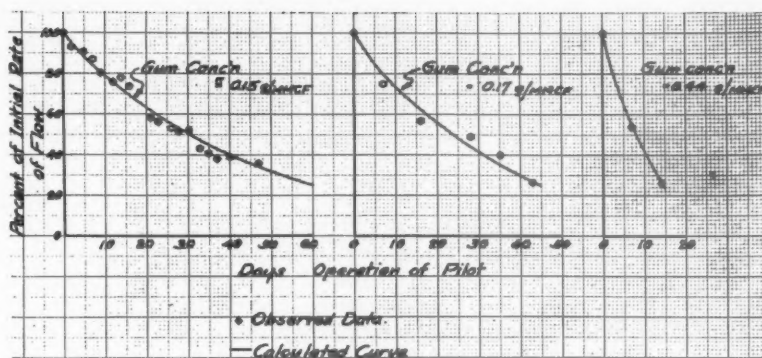


Fig. 6. Decrease in gas flow through pilot needle valves

operating a pilot with the filter for a long period of time.

#### Summary

A procedure is described suitable for the determination of the suspended material carried by gas, when present in concentrations of less than one gram per million cubic feet of gas. The utility of the method for aiding in the solution of a number of problems arising in the processes of gas manufacture and utilization is illustrated.

#### BIBLIOGRAPHY

- In the following list of references, a variety of methods, including electric and thermal precipitation as well as impingement, are described for the determination of suspended particles in gaseous atmospheres. References (3) and (8) include more extended bibliographies.
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### U. S. Coals Analysed

TO assist purchasers of coal in selecting the solid fuel best suited for their needs, the Bureau of Mines has completed a booklet which gives the typical analyses of coal found in each commercially important bed in all coal-producing counties of the United States. Dr. R. R. Sayers, director, stated last month. Facts for the booklet were obtained from the more than 300,000 analyses of individual samples of coal which are on file with the Bureau of Mines and the Bituminous Coal Division, Department of the Interior.

The publication, which supplements a series of technical papers which give analyses of individual samples of coal from mines in the important coal-producing states, was prepared by Dr. A. C. Fieldner, chief of the Bureau's Fuels and Explosives Service; W. E. Rice, fuel engineer, Bureau of

Mines, and H. E. Moran, assistant chemist at the Eastern Experiment Station of the Bureau, College Park, Md.

Copies of "Typical Analyses of Coals of the United States," Bureau of Mines *Bulletin* 446, may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 10 cents per copy.

### Gaidry Re-Nominated Section Chairman

HAROLD L. GAIDRY, gas engineer of New Orleans Public Service Inc., has been re-nominated as chairman of the Technical Section for the coming year. John H. Wolfe, general superintendent of gas operations, Consolidated Gas, Electric Light & Power Co. of Baltimore, and present vice-chairman of the Section, was slated to succeed Chairman Gaidry but was unable to accept the nomination due to pressure of war work.

Charles F. Turner, chief chemist of The East Ohio Gas Co., Cleveland, has been nominated for vice-chairman of the Technical Section.

### Pipe Corrosion Cut by New Plants

IN order to prevent pipeline corrosion, thereby aiding the war effort by conservation of metals, Southern California Gas Company has constructed, and is operating two "anti-corrosion" plants in Kern County. The plants, the first ones to be built on the Pacific Coast, take the water vapor out of the gas taken from the Coles Levee field and Greeley field. The water vapor otherwise condenses frequently into free water in the mains, and causes internal corrosion in the pipes.

The agency used for the dehydration process is diethylene glycol, and the plants are known therefore as diethylene glycol plants.

The anti-corrosion equipment costs about \$15,000 each. They have a capacity of 25,000,000 standard cubic feet per day.



## Fundamental Aspects of Oven Design

**R**ULE-OF-THUMB methods have played an important part in development of modern domestic gas ranges. Within recent years, however, these trial-and-error methods have been replaced by scientific findings. These have been brought about by independent research conducted by manufacturers and gas companies to meet specific problems, and by organized cooperative research carried on by the American Gas Association.

Largely as a result of this extensive research, remarkable progress in construction, speed of operation, efficiency, and comfort aspects has been realized. To mention a few outstanding examples, in the past 10 years thermal efficiency of gas range top burners has increased nearly 50%. Time required to preheat an oven to a desired baking temperature has been decreased nearly one-third, with a proportionate decrease in gas consumed for this operation. Similarly, amount of gas required to maintain a given baking temperature has been decreased one-third. To these important improvements may be added many others which have afforded consumers increased convenience and ease of operation, all of which have played a large part in upholding superiority of modern gas ranges over those employing competitive fuels.

### Improving Range Performance

Means for further improving performance of domestic gas ranges with resulting fuel economy have been investigated at the American Gas Association Testing Laboratories since 1935. Included among these studies are fundamentals of oven design and other sections of gas ranges, results of which have been made available to the industry in bulletin form. Bulletin No. 7, "Domestic Gas Range Research," published in December, 1936, and Bulletin No. 8 published under the same title in July, 1940, summarize data obtained. This work was conducted under supervision of the American Gas Association's Committee on Domestic Gas Research, headed by F. J. Rutledge of the United Gas Improvement Company, with assistance of the Technical Advisory Committee of Manufacturers on Domestic Gas Range Research, of which Arthur Stockstrom, president of the American Stove Company, is chairman.

While the primary function of domestic gas range ovens is to bake and roast food properly, many factors play an important part in performing this operation economi-

By MILTON ZARE

*A. G. A. Testing Laboratories*

cally. Obviously the less time required to preheat an oven, the less gas will be consumed. Similarly, the less heat escaping through oven walls, door, and flue outlet, the less gas is required to maintain the desired baking temperature in the oven. Based on data obtained, excess air concentration in the flue products is closely associated with these operating characteristics as will be evident from Fig. 1. This holds true in that the temperature of flue gases will approximate very closely that of the oven interior regardless of oven design or oven insulation. For any given oven temperature, therefore, flue loss, which is expressed as a percentage of the input rate, is dependent on the quantity of excess air in the flue products. It also follows that any change in oven design affecting excess air concentration will affect performance characteristics as well.

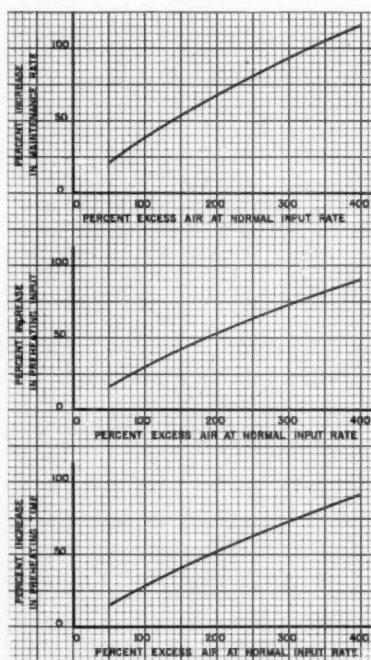


Fig. 1—Effect of excess air on preheating time, preheating input, and maintenance rate

To study effects of constructional features in oven design on operating characteristics, a special oven (Fig. 2) was employed. This oven was gas tight except for secondary air openings in the extreme bottom and flue outlet. By means of sheet-metal inserts, areas of secondary air openings, bottom sheet openings, internal flueways and flue outlet were varied. Position of the flue outlet was raised and lowered by means of an adjustable back wall. All sides, top, and bottom of this oven were insulated with 1-inch rock wool. The mixer face of the burner was placed external to the oven proper, and primary air injection held constant throughout.

Approximately 3,500 separate tests were conducted on this oven using the following procedure. Employing different input rates and constructional variations, the oven was preheated to 430° F. above room temperature and then maintained at this temperature for 1 hr. Observations were made of time and amount of gas required for preheating, oven and flue gas temperatures were noted, and maintenance rates computed. Samples of flue products for chemical analysis were also taken. Flue loss and excess air concentrations were calculated from the above information.

### Effects of Varying Areas of Openings

As a result of these studies it was possible to determine effects of varying areas of openings for secondary aeration, as well as internal flue gas passages through the oven. As shown in Fig. 3, if secondary air openings, expressed as per cent of flue outlet area, were increased until they were approximately 250% of this area, excess air concentrations were also increased. These curves also show that above this point little or no additional change was effected by further increases in secondary air openings. This may be accounted for by the fact that beyond this point these openings do not restrict the flow of air through the oven. This relationship is further substantiated by similar observations on effect of increasing secondary air openings on preheating time and maintenance rate (Fig. 4). In this instance, little or no additional changes in these operating characteristics occur with secondary air openings above 2½ times the flue outlet area.

In the same manner it was shown that internal bottom sheet openings, through which products of combustion enter the oven, do not restrict flow of gases when

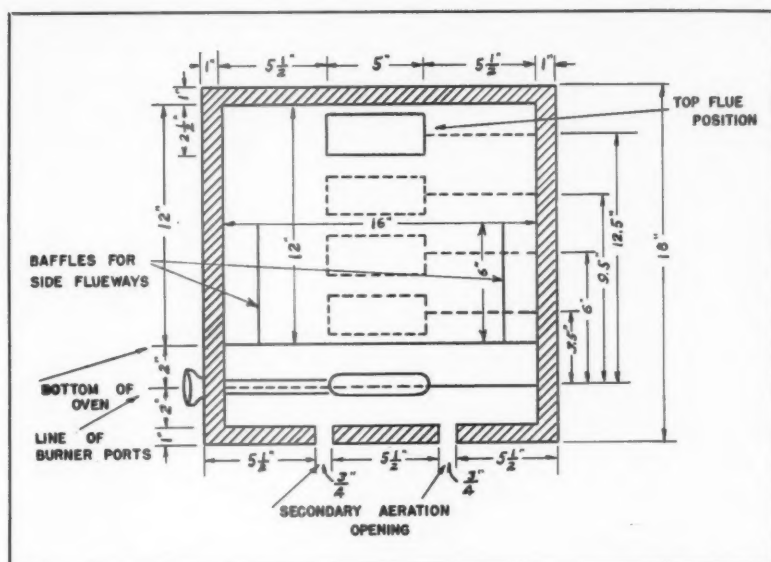


Fig. 2A—Back cross-sectional view of experimental oven showing the flue outlet position in relation to burner ports

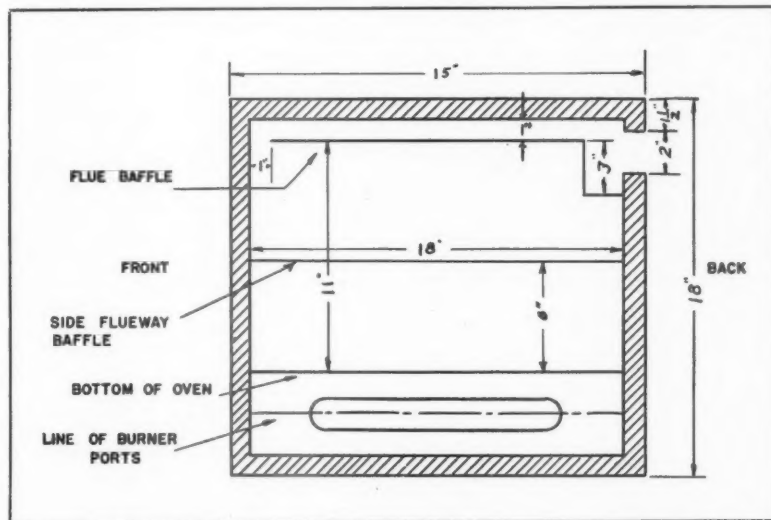


Fig. 2B—Side view of experimental oven showing baffle plate for flue gases

their area exceeds 4 times the flue outlet area (Fig. 5). In addition, above this maximum effective area no further changes in preheating times and maintenance rates took place (Fig. 6). Inasmuch as varying the openings in vertical and horizontal flueways, through which the products of combustion and excess air pass, showed similar results, no curves illustrating these effects are shown. However, the maximum areas at which they do not affect excess air concentration and above-mentioned operating characteristics are 400% of the flue outlet area for vertical flueway openings, and 175% of the flue outlet area for horizontal flueway openings.

By employing areas of secondary air, bottom sheet and internal flueway open-

ings in excess of those which effect changes in excess air concentration and operating characteristics of the oven, it was possible to give proper consideration to effects of flue outlet size and location. Results obtained in this phase of the investigation showed that for each given flue outlet area and input rate, decreases in height of flue outlet above burner ports caused lower flue losses and excess air concentrations by decreasing the total volume of gases passing through the oven. When flue height and input rate were held constant, decreases in area of flue outlet produced additional reductions in excess air concentrations by further restricting the flow of flue gases. These relationships are quite definite, as shown in Fig. 7, and can be expressed quantitatively in an empirical equation as follows:

$$A = \frac{I \times E^{0.908}}{15,580 (6.37 + H)}$$

Where:

$A$  = flue area in sq.in.,

$I$  = input rate in B.t.u. per hr.,

E = excess air concentration in the flue gases expressed in per cent, and

H = height at centerline of flue outlet  
above burner in inches.

In order to demonstrate applicability of this equation, two series of tests were made on 12 domestic gas ranges of contemporary design. In the first series, observations similar to those conducted with the experimental test oven were made with each range as it is normally used in service. In the second series, oven doors were sealed to simulate the gas-tight condition of the test oven. Excess air concentrations obtained by these tests are shown in the attached table together with those calculated by the equation presented above. It is interesting to note the agreement between the calculated and actual results. With few exceptions, the ratio of excess air with the oven door sealed to that with the oven door unsealed was approximately 80%. On this basis it might be concluded that typical oven door construction permits approximately 20% leakage around the door. Consequently, for practical purposes the desired amount of

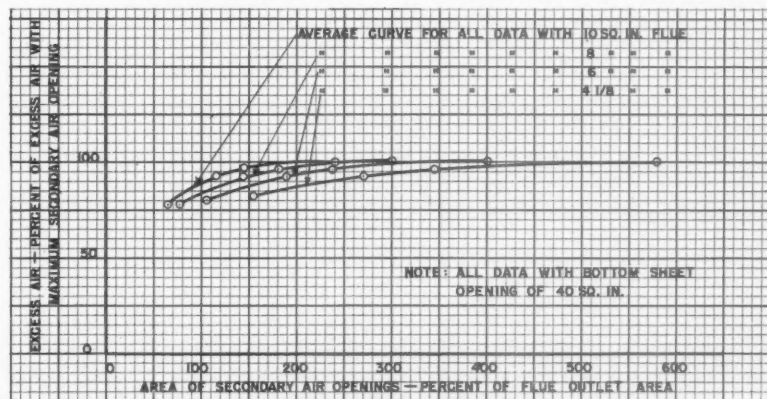


Fig. 3—Effect of variations in secondary air opening areas on excess air



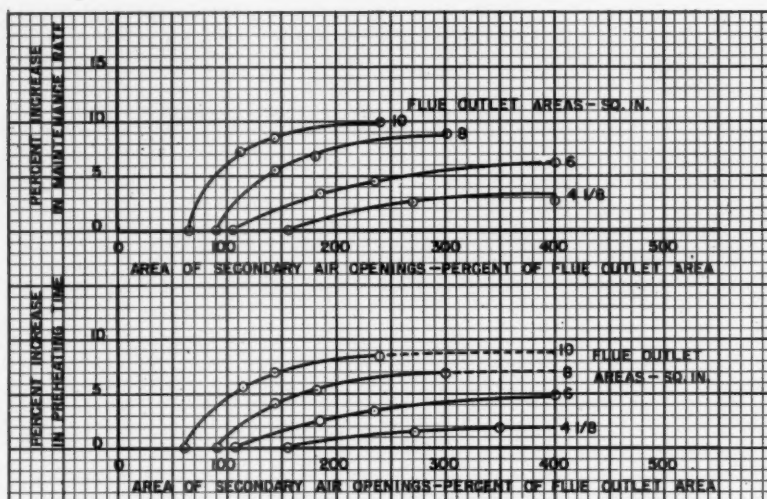


Fig. 4—Effect of secondary air opening areas on preheating time and maintenance rates

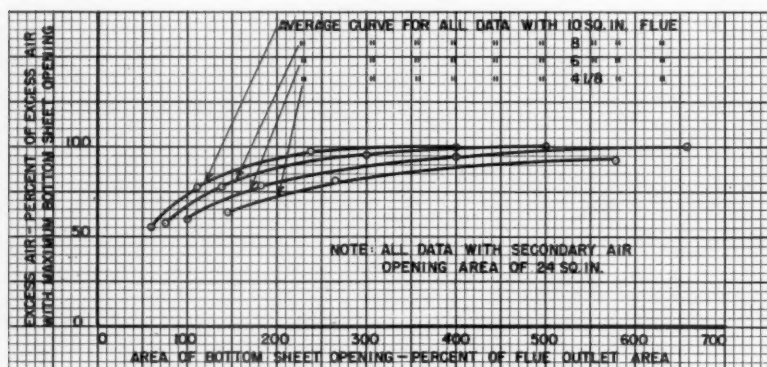


Fig. 5—Effect of variations in bottom sheet opening area on excess air

excess air should be multiplied by 0.8, and the resulting value substituted in the equation.

It was also possible to conclude that this relationship holds for apparently any type of venting and aeration system generally incorporated in direct-fired ovens (those in which flue gases pass through the oven proper) providing that secondary air openings, bottom sheet openings, and internal flueways do not restrict the flow of flue gases, and where no leakage occurs through the oven door or linings. Moreover, this equation may be employed for range broiler sections, as well as other types of gas-burning equipment by means of extrapolating the data presented herein.

To further demonstrate how these data may be employed in oven design, an example will be given. Ordinarily the input rating of an oven is established by its volume (usually 8,000 B.t.u. per cu.ft.). Height of the flue outlet is usually arrived at by general design of the oven. The amount of excess air concentration should be minimum consistent with good combustion. The remaining variable is the flue outlet area. This factor is usually most readily susceptible to change after a range has been designed and constructed. In this example it is assumed that the oven has a 20,000 B.t.u. per hr. input rating, and has a venting system where flue gases from the burner compartment enter through side openings in the bottom sheet and leave through a flue outlet 16 in. above the burner ports at the back of the range. It is also assumed that the desired excess air concentration is 150% which, corrected for oven door leakage employing the factor of 80% previously referred to, gives 120% excess air to be used in this calculation. Substituting these

#### COMPARISON OF RESULTS OBTAINED WITH TEST OVEN AND WITH TYPICAL COMMERCIAL OVENS

Oven No.	Input Rate B.t.u. Per Hr.	Area of Flue Outlet Sq.In.	Height of Center Line of Flue Outlet Above Burner Ports Inches	Minimum Area of Bottom Sheet Openings (or Side Flueways) Percent of Flue Area	Minimum Area of Secondary Aeration Openings Percent of Flue Area	Minimum Area of Top Flue Space Percent of Flue Area	Excess Air Percent of Air Theoretically Required for Complete Combustion			Ratio of Excess Air with Oven Door Sealed to Excess Air with Oven Door Unsealed	Type of Venting (see note)
							Calculated from Equation (1)	Obtained from Flue Gas Analysis			
								Oven Door Sealed	Oven Door Unsealed		
1a	23,500	3.54	16¾	1185	392	275	80	74	110	.67	III
2a	25,600	8.00	17½	540	265	—	188	205	241	.85	IV
3a	25,750	4.00	17⅜	400	1275	205	86	85	105	.81	II
4a	24,000	5.78	17½	425	1040	180	143	143	183	.78	II
5a	20,200	12.5	15¼	620	870	—	358	377	460	.82	I
6a	23,600	7.5	14	507	490	—	160	158	243	.65	I
7a	22,000	5.5	16½	395	475	240	140	158	208	.76	III
1b	26,200	6.0	16¼	267	288	—	127	117	152	.77	I
2b	17,500	6.5	12	224	184	184	171	152	191	.795	III
3b	24,850	14.5	17½	249	165	—	374	308	354	.87	IV
4b	23,000	5.5	14¼	309	1090	220	119	134	170	.79	II
5b	22,500	6.0	17	190	420	—	153	128	182	.70	I

Note: Type I Venting was where flue gases entered oven through openings in oven bottom and were discharged through opening in back wall.  
 Type II Venting was where flue gases entered oven through openings in the side linings and were discharged through a top flue space.  
 Type III Venting was where flue gases entered oven through openings in oven bottom and were discharged through a top flue space.  
 Type IV Venting was where flue gases entered oven through openings in the side linings and were discharged through opening in back wall.



values in the equation, the following is obtained:

$$A = \frac{20,000 \times 120^{0.888}}{15,580 (6.37 + 16)} = 4.43 \text{ sq.in.}$$

It follows that minimum dimensions for the other flueways should be such as do not affect operating characteristics and excess air concentration. Thus, minimum area of secondary air openings should be at least 250% of the flue outlet area, or 11 sq.in. Likewise, bottom sheet openings and openings in internal vertical flueways should be at least 400% of the flue outlet area, or

17.5 sq.in., and that of the horizontal flue-way, if employed, should be 175% of the flue outlet area, or 7.75 sq.in.

It might seem desirable from results presented in Fig. 3 and 4 to reduce the area of secondary air openings to accomplish faster preheating times, as well as lower maintenance rates and excess air concentrations. However, from a practical point of view, comparable reductions may be obtained more readily by proper selection of flue outlet size and location. Further, as shown in Fig. 5 and 6, reductions in bottom sheet openings increased preheating

times, and simultaneously decreased maintenance rates and excess air concentrations. For this reason it does not seem advisable to employ bottom sheet opening areas below those values affecting these operating characteristics and excess air concentrations. Moreover, any effect caused by varying bottom sheet openings can be simulated very closely by changing flue outlet area or flue height.

In addition to these constructional features, such aspects as oven heat distribution, insulation, burner design, and many others, must be taken into consideration for a satisfactory oven design. The first of these factors, particularly, is highly important from the consumer standpoint. It is natural that they judge a gas range by its baking characteristics and comfort aspects. While these are not discussed in this article, additional information summarizing recent investigations covering them are given in the Domestic Gas Range bulletins.

There is no doubt that these technical data resulting from these studies will be of material assistance to gas range manufacturers in improving their equipment above the present high level of satisfactory performance of contemporary appliances. Perhaps the best indication of the immediate applicability of these data is the improvements noted in new models of domestic gas ranges recently put on the market. By providing faster operation and greater economy, as well as more satisfactory performance than ever before, the superiority of gas ranges has been increased many times over competitive types.

## More A.G.A. Engineers Join Armed Forces

THE honor roll of American Gas Association Testing Laboratories' engineers in the armed forces has been increased to 21 with F. E. Hodgdon, H. L. McPherson, and G. A. Duncan entering various branches of the service.

Frank E. Hodgdon, a member of the staff since January, 1939, was called to active service late in July. A reserve officer with the rank of Second Lieutenant in the coast artillery, he will be stationed at Fort Eustis, Virginia. Lieut. Hodgdon is a graduate of Georgia School of Technology, receiving his degree in mechanical engineering in 1937.

Howard L. McPherson was recently commissioned a Second Lieutenant in the Signal Corps. He is a graduate of Tri-State College, receiving degrees in electrical and radio engineering. Lieut. McPherson joined the Laboratories' staff in January, 1939, and resigned in December, 1941, to become a Navy ordnance inspector. At present he is taking an advance course at Case School of Applied Science prior to assignment to active duty.

George A. Duncan resigned in June, 1942, to enlist in the Navy. He is receiving his basic training preparatory to becoming a gunner in the naval air service.

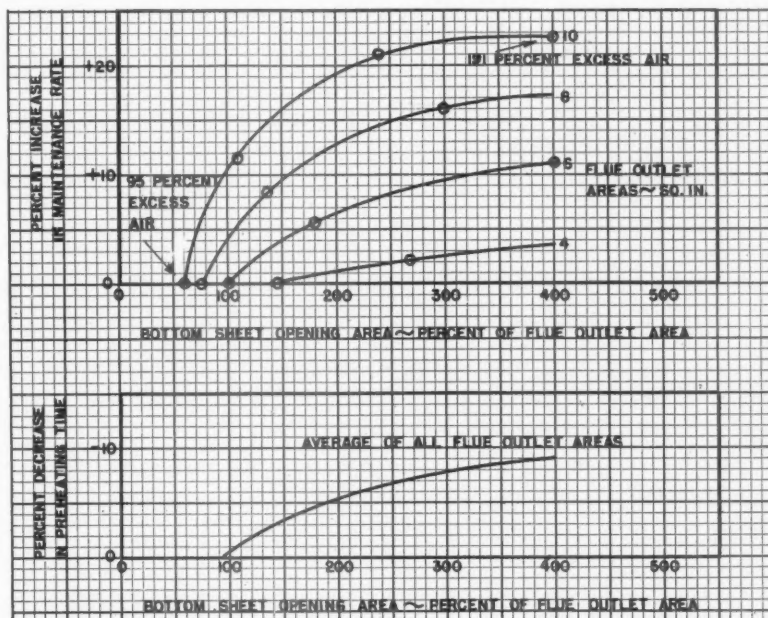


Fig. 6—Effect of bottom sheet opening area on preheating time and maintenance rates

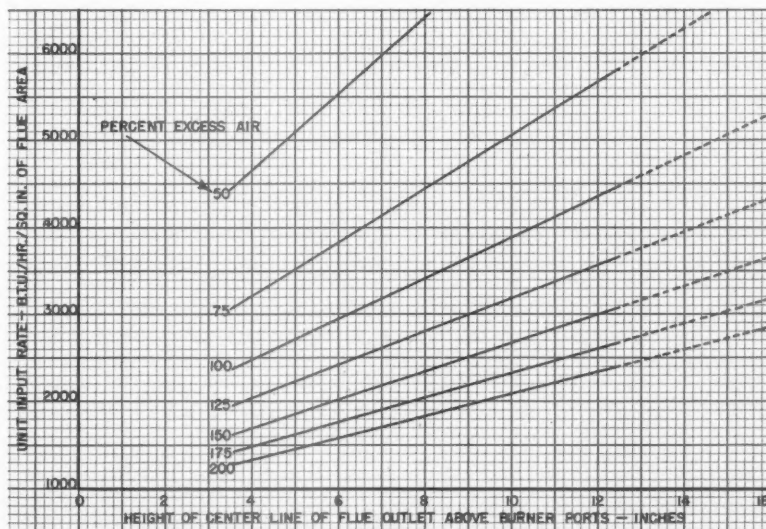


Fig. 7—Relationship between unit input rate, flue height, and excess air

# Laboratories Issue New Industrial Gas Research Bulletin

**R**ESearch Bulletin No. 15, "Combustion of Gas with Limited Air Supply," has been distributed to all members of the Committee on Industrial Gas Research, headed by J. W. Batten, for their advance review. It forms the second and final bulletin on Research Project No. 36, "Research in Reducing Atmospheres Produced by Combustion of Industrial Gas," assigned the A. G. A. Testing Laboratories by the supervising committee. Initial studies were reported in Bulletin No. 11, published in 1940.

Principal attention has been devoted in the new bulletin to composition of combustion products of typical fuel gases with variations in air supply from the full quantity needed for complete combustion to a fraction of this amount. In addition to experimental furnaces, commercial size units were also employed so that the results would be more generally applicable. Limiting aerations below which combustion was not self-supporting were established. Data presented are given in more complete form than have heretofore been published.

A summary of technical information dealing with furnace atmospheres is included as a separate chapter. While no actual studies were made on the effect of various furnace atmospheres on metals, general

properties of their principal constituents are listed and their action on metals summarized. Laws of chemical equilibrium are discussed and examples presented to illustrate how they may be used to estimate effects of atmospheric gases on a metal. These include examples of their use for determining the probable action of furnace atmospheres for a definite application.

Individual treatment is given to intermediate-oxidization compounds formed from gaseous combustion, including aldehydes and others. Study of available methods of analysis showed them to be unsuitable for quantitative determinations in small concentrations, and modifications were therefore made to permit their satisfactory application. Results are presented of complete analyses of aldehydes and similar products resulting from combustion of various fuel gases, obtained by use of these modified procedures.

Those employing gaseous atmospheres for heat treating and similar applications will find the complete and original data contained in Bulletin No. 15 of great value and assistance. Available at a time when demand for war materials is at an all-time peak, added facilities are thus provided for increasing production and aiding our war effort.

## Gas Service Extensions

**T**HE provisions of preference rating order P-46 relative to extensions of gas service as amended and interpreted to August 19 are as follows:

1. A gas utility that is called upon to extend service to any defense projects carrying a rating of A-5 or better is entitled to the same rating that the project has been assigned. This rating is extended to the gas company after the gas company makes application on the form prescribed in the amended paragraph (c) (2). This applies to projects such as war plants, and does not apply to rated housing projects.
2. In obtaining permission to extend service to housing projects carrying A-5 or better ratings, application is made on form PD-545 and the rating is extended through the local War Production Board official, on recommendation of the local Housing Administrator.
3. Although the amended order eliminates the 500 foot extension, there are two exceptions to remain in the order, and allow extensions to be made without obtaining permission of the Power Branch. These exceptions apply in cases where the utility has the necessary material in stores for the work. The exceptions are:

- (a) Extensions of less than 250 feet, including both main and service, can be made to new construction, whether rated or not, if the foundation was completed prior to July 1, 1942.
- (b) Extensions of less than 250 feet, including both main and service, can be made to new or old construction, whether defense rated or not, if the house was piped for gas prior to July 1, 1942.

A further exception is being considered by W.P.B. which, if finally approved, will permit service connections to be made to old dwellings, where the occupants own appliances purchased prior to July 16, 1942, if the connection can be made with not more than 60 feet of 1½" pipe, or its equivalent in weight. Under the present regulation, a utility is forbidden, without special permission, to extend service to any old building that has never had gas service, regardless of how short the connection may be.

On the other hand, there is also under consideration, a further amendment to P-46 which may have the effect of forbidding all extensions, except those to defense rated projects.

## Personnel Service

### SERVICES OFFERED

**Salesman** with A1 reference and sales ability. Experience in selling gas ranges for 22 years, calling on better dealer and department store. Desires a connection with Metropolitan New York or utility company's sales department. Former position terminated on account of war. 1443.

**Manager**, college degree, with more than twenty years' experience in management of manufactured gas properties, both coal and water gas. Familiar with operation in Spanish country. Not particular about location. 1444.

**Engineer, M.E.**, 15 years' utility experience in all branches of utilization and sales of manufacturing gas, particularly **Industrial Engineering and Sales**. Also experience in air conditioning, industrial application of electric heating and private power plant competition. Desire position with a utility, manufacturer or consultant. 1445.

**Engineer**—22 years gas and electric plant design, construction, maintenance, and operation. Completed cadet course on coke oven operation, served as chief draftsman for operating company, as Operating Engineer for Gas Construction Company and recently on construction of topping turbines and auxiliaries. Prefer Southeast. (46) 1446.

**Practical gas man** thoroughly familiar with all types of gas burning equipment, setting and testing gas meters. Excellent references. Specialist in conversion work. 1447.

**Available for consultation—Gas Engineer** of 40 years' experience small and medium plants. Designs for adapting to heavy oil and bituminous coal; steam accumulators; tar eliminators; compounding existing station governors; butane-air change-overs; cinder catchers; by-building equipment from scrap pile and own labor costs are greatly reduced. 1448.

**Graduate Mechanical Engineer**—Seven years' experience production and distribution manufactured gas. Eight years' industrial gas sales. All above with large system covering all phases of industry. One year industrial sales engineer liquefied petroleum gas. Draft deferred, free to travel, locate anywhere. Prefer utility or allied line where experience would count. 1449.

### L-79 Amendments

**C**OOKING and baking equipment using coal, oil or gas and gas-burning heating equipment for steam, hot water, warm air or other heating systems are now covered by limitation order L-79 according to amendments issued August 11. At the same time, W.P.B. issued amendment No. 1 to preference rating P-84, providing for preference rating assistance in connection with the repair and maintenance of cooking and baking equipment.

### Brazil Gas Supply

**N**OTWITHSTANDING the increasing difficulties in securing adequate supplies of coal and other materials, the Government of Brazil has, so far, decided against rationing the supply of gas to consumers. They have, however, been urged to reduce their demand in every possible way. Certain restrictions have been placed on extension of mains.

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